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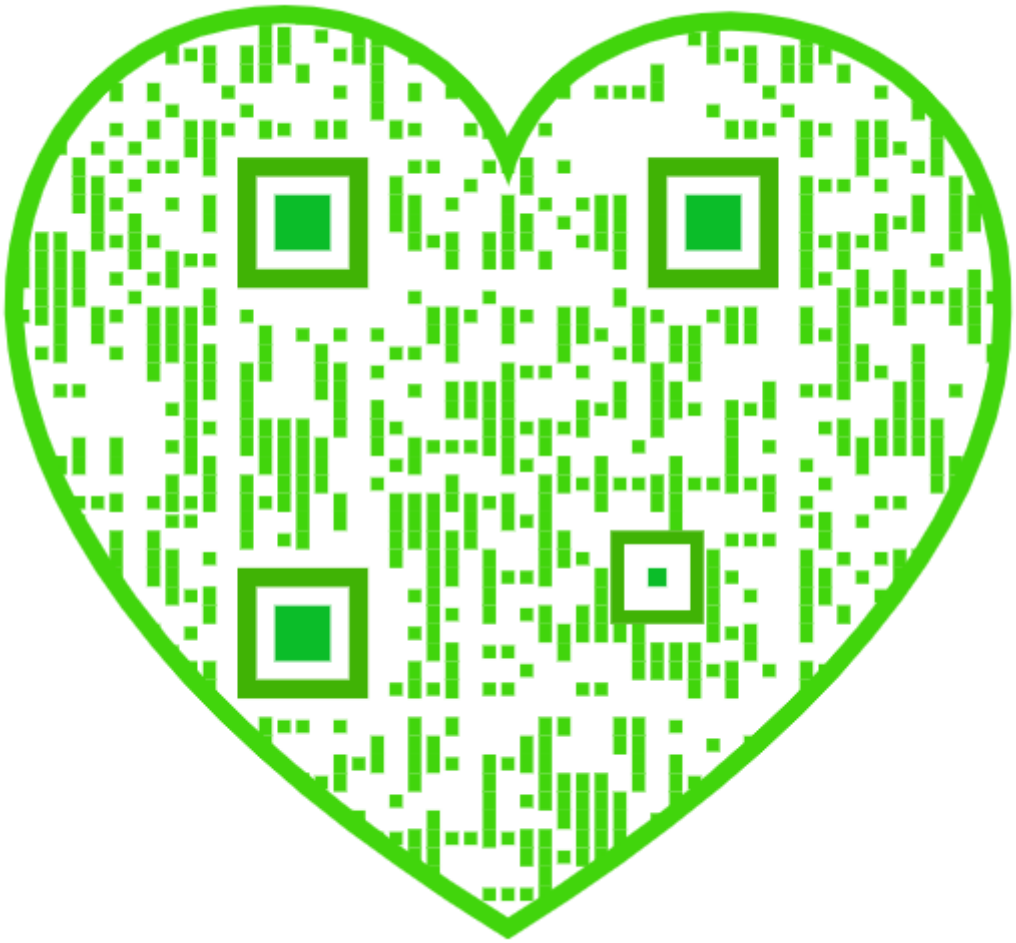
DCPA ATTACK ENVIRONMENT MANUAL

CHAPTER 9

APPLICATION TO EMERGENCY
OPERATIONS PLANNING

DEFENSE CIVIL PREPAREDNESS AGENCY
DEPARTMENT OF DEFENSE

JUNE 1973



DCPA ATTACK ENVIRONMENT MANUAL

WHAT THE EMERGENCY PLANNER NEEDS TO KNOW ABOUT THE NATURE OF NUCLEAR WAR

No one has gone through a nuclear war. This means there aren't any natural experts. But civil defense officials are in the business of preparing against the possibility of nuclear war. Intelligent preparations should be based on a good understanding of the operating conditions that may occur in a war that has never occurred. Lacking such understanding, emergency operating plans probably won't make much sense if they have to be used.

This manual has been prepared to help the emergency planner understand what the next war may be like. It contains information gathered from two decades of study of the effects of nuclear weapons and the feasibility of civil defense actions, numerous operational studies and exercises, nuclear test experience, and limited experience in wartime and peacetime disasters that approximate some of the operating situations that may be experienced in a nuclear attack. In short, it summarizes what the Defense Civil Preparedness Agency now knows about the nuclear attack environment as it may affect operational readiness at the local level.

LIST OF CHAPTER TITLES

CHAPTER 1	Introduction to Nuclear Emergency Operations
CHAPTER 2	What the Planner Needs to Know about Blast and Shock
CHAPTER 3	What the Planner Needs to Know about Fire Ignition and Spread
CHAPTER 4	What the Planner Needs to Know about Electromagnetic Pulse
CHAPTER 5	What the Planner Needs to Know about Initial Nuclear Radiation
CHAPTER 6	What the Planner Needs to Know about Fallout
CHAPTER 7	What the Planner Needs to Know about the Shelter Environment
CHAPTER 8	What the Planner Needs to Know about the Post-Shelter Environment
CHAPTER 9	Application to Emergency Operations Planning

PREFACE TO CHAPTER 9

This Chapter draws on the content of the first eight chapters to help the local emergency planner apply the information effectively. The planning advice is keyed to the checklist format of the ALFA NEOP and the BOS system described in Chapter 1, and the BRAVO NEOP described in Panel 3. Although these concepts and formats have not been fully deployed, they are useful organizing tools.

Information is presented in the form of "panels," each consisting of a page of text and an associated sketch, photograph, chart, or other visual image. Each panel covers a topic. This preface is like a panel, with the list of topics in Chapter 9 shown opposite. If the graphic portion is converted into slides or Vugraphs, the chapter or any part can be used in an illustrated lecture or briefing, should that be desired.

The ordering of topics begins with three introductory panels. The next four panels review the "infrastructure" needed for in-place protection of the population and emergency forces. Seven panels are devoted to a discussion of emergency organization. There follow nine panels describing the content of an effective nuclear emergency operations plan. Three panels emphasize the planning process and its relationship to natural disaster planning and exercises. The BRAVO planning for evacuation is discussed in the next five panels. Finally, the full spectrum of emergency planning is summarized. Guidance is given in the concluding panel on how to obtain the reports that have been suggested for additional reading.

Obviously, the coverage of this chapter is very broad, and not every panel can go into detail as much as one might wish. We cannot, for example, provide a fully developed "model" plan in the space available. Those with limited resources or training and who therefore use it as a general reference will probably find it offers a useful approach to structuring their program. For others already familiar with BOS and NEOP approaches, it should provide useful insights regarding the larger relationships of planning.

CONTENTS OF CHAPTER 9

"APPLICATION TO EMERGENCY OPERATIONS PLANNING"

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5	The Community Shelter Plan
6	Shelters and Staging Areas
7	Emergency Operating Centers
8	Emergency Organization
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14	Putting It All Together
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32	Full-Spectrum Civil Preparedness
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THE IMPORTANCE OF PLANNING

In Chapter 1, it was said that realistic operational planning is the foundation of operational readiness. This quotation of President Eisenhower, from a speech to a group of National Defense Executive Reservists, argues that it is the **process** of planning, rather than plans themselves, that is all-important. Written plans have substantial value as bases for training and exercising, for familiarizing new local officials with their emergency duties, and as checklists of necessary actions. But a written plan, devised "in the back room" by an emergency planner, however knowledgeable and dedicated, does not assure that actual operations will be effective since the key operators have not participated in the planning **process.**

The emergency plan, whether for nuclear attack or peacetime disaster, should document and reflect a planning process conducted by a team of representatives from each agency of government having an emergency mission, and each non-government group with such a mission (e.g., news media, medical associations, industry representatives, and American Red Cross Chapter). The local chief executive, who has the ultimate operating responsibility, should review progress periodically, and participate in appropriate portions of the planning and decision process.

The emergency planning process should be led by the local Civil Defense Director/ Coordinator. His main contribution should be specialized expertise. The National Plan for Emergency Preparedness states in part:

> "It is an operational assumption of the Civil Defense Program that existing agencies of government will perform emergency activities related to those they perform in peacetime. A basic purpose of civil defense organizations is to coordinate these activities and to provide those unique civil defense skills and capabilities not available in existing government organizations. The civil defense structure (agencies) will also inform their sister agencies of government of those special conditions arising out of a nuclear attack which would call for a modification of traditional operating techniques."

That is what this Attack Environment Manual is all about. It is designed to help you inform your "sister agencies" of the special conditions that could arise in nuclear war (or natural disaster) as part of the all-important planning process.

"Plans are worthless, but planning is everything. . . . keep yourself steeped in the character of the problem you may one day be called upon to solve--or to help to solve."

President Dwight D. Eisenhower, 1957

THE UNCERTAINTIES OF RISK

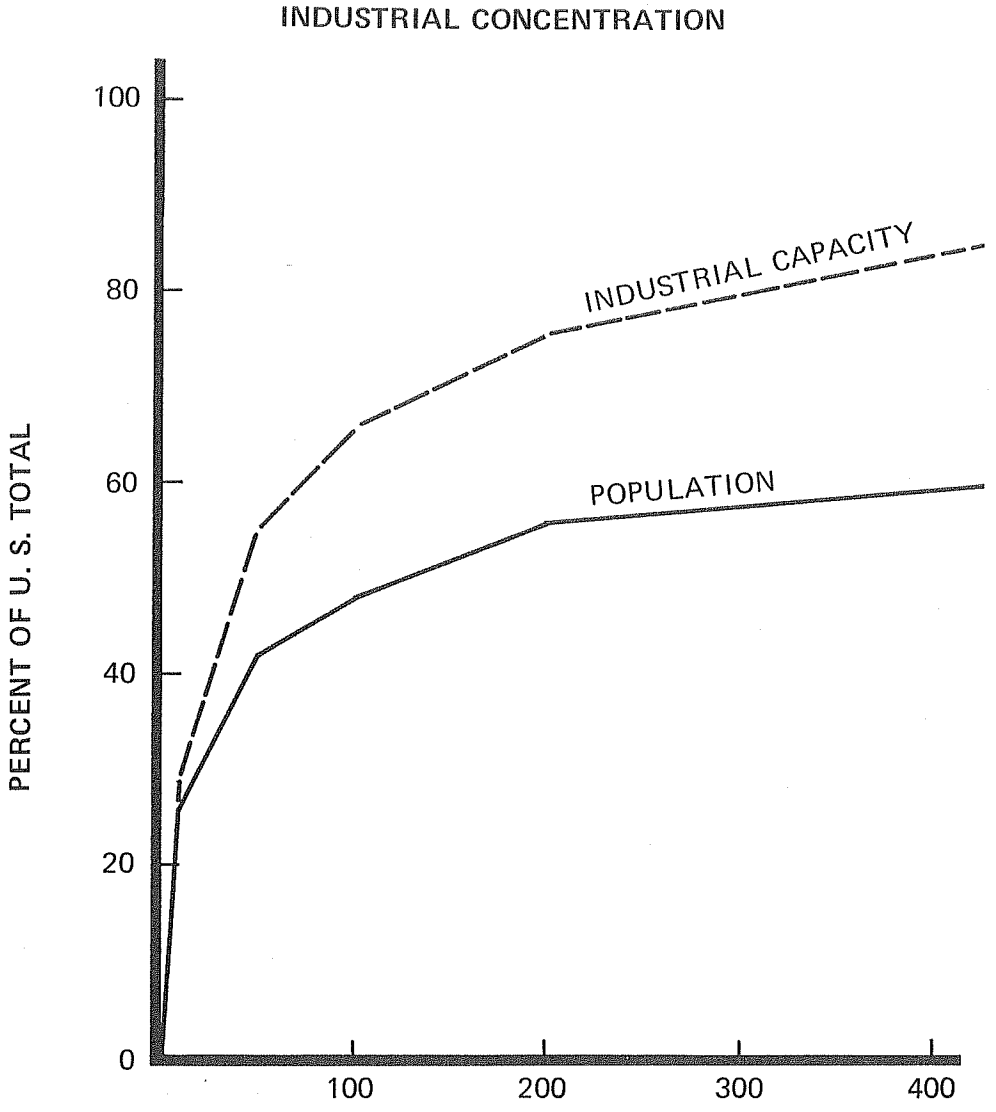
Chapter 1 also emphasized the need for contingency planning to develop operational readiness in each locality to cope with the range of attack environments that could reasonably occur. Subsequent chapters made clear that in areas remote from the sites of nuclear detonations, only fallout was a hazard to life and EMP a threat to electronic and electrical equipment. The direct effects of nearby detonations—blast, fire, and initial nuclear radiation—posed a threat as well. Nuclear emergency operations would be more complex and demanding in these "risk" areas.

It would be advantageous to know in advance where nuclear detonations will occur in event of war. Emergency planning would be much simpler. But the uncertainties will not permit more than a judgment that some localities are more at risk than others, and, of course, no weapon has been made perfectly reliable or accurate. Hence, no place can be "written off" as certain of devastation. For another thing, we do not know how many enemy weapons would be burst on or near the surface. Hence, we do not know how severe the fallout threat will turn out to be. Of course, we do not know what the winds will be like and, thus, where the significant fallout will occur. And, finally, we do not know what targets an enemy will select.

Perhaps the most authoritative statement of Soviet targeting doctrine is contained in the Russian book, **Military Strategy**, by Marshal V.D. Sokolovsky, where it is stated:

> "The targets in a modern war will be the enemy's nuclear weapons, his economy, his system of government and military control, and also his army groups and his navy in the theaters of military operation."

This listing is repeated several times in this book. People as such are never mentioned as a legitimate target. But, as this chart shows, U.S. industry is mainly located in the larger cities—and that is where much of the population lives as well. That is why it was argued in Chapter 1, Panel 14, that all localities needed to plan for the possibility of potentially serious fallout radiation exposure, and those near important military and industrial facilities needed to plan for direct weapons effects as well.


INDUSTRIAL CONCENTRATION
PERCENT OF U. S. TOTAL
100
80
60
40
20
0
INDUSTRIAL CAPACITY
POPULATION
100
200
300
400
Number of U.S. populated areas.
(Ranked by population from largest to smaller.)

PANEL 2

BRAVO COMES AFTER ALFA

ALFA is the first letter in the international phonetic alphabet. BRAVO is the second letter. We use ALFA to denote an emergency plan based on protecting the population in place—where they normally live. BRAVO plans are based on relocating masses of the population from the places of highest risk (cities, in nuclear attack planning; coastal areas in hurricane planning) in advance of attack or disaster. This table shows how the population might be located if a BRAVO relocation had occurred as compared with that shown in Chapter 1, Panel 14. Clearly, preattack dispersal and evacuation could save millions of lives.

Evacuation was the basic civil defense plan in the 1950s when nuclear weapons could be delivered only by bomber aircraft. Several hours could be expected after detection of the aircraft before nuclear detonations could occur in U.S. cities. Evacuation planning concentrated on means to move city-dwellers out of the cities during this short time interval. The deployment of ballistic missiles made evacuation after attack warning impractical, and means for protection of the population in-place were given much consideration.

By the time of the Cuban Missile Crisis of 1962, it had become accepted that a "bolt-out-of-the-blue" surprise attack was highly unlikely. Evacuation of cities during a crisis appeared feasible. But planning for this contingency was de-emphasized because strategic warning indicators were notoriously ambiguous, and because a decision to evacuate cities might not be compatible with the President's objective of resolving the crisis short of nuclear conflict.

However, in the past few years, crisis evacuation has emerged as the basis for Soviet civil defense. Other countries, such as Sweden and Norway, publish evacuation and other defense plans in their telephone books as guidance for the populace. Plans to evacuate our cities if the Soviets should do so—BRAVO plans—are now important if the President is to have additional time to negotiate the differences that generated the crisis. Nonetheless, the carrying-out of such plans will remain uncertain. Therefore, the strategy of protection in place, by shelter in existing buildings, remains the primary basis for nuclear emergency operations planning and will be considered first in this chapter. That is, A comes before B!

DISTANCE FROM NEAREST WEAPON
(Military-Industrial Attacks)

Distance (miles)	Percent of Population (ALFA*)	(BRAVO)
10	45	12
20	65	25
40	75	50
100	95	95
200	99	99

*ALFA column is from Chapter 1, Panel 14.
BRAVO column assumes 75 percent relocation from major cities for the same sort of attack pattern.

SHELTER SURVEY

An invaluable product of emergency planning is the detailed arrangements for coping with anticipated problems, within the resources available to the community. If advance arrangements are not made, decision makers must react to immediate problems in the stress of the actual emergency. Inevitably, some actions are taken or not taken that increase the amount of hardship, suffering, and loss of life and property. Nowhere is planning more important than in the provision and use of shelter, for it plays the central role in protecting people from the injurious effects of the attack environment. Thus, emergency plans must be built around the available shelter.

During the 1960s, sheltering the entire population from fallout radiation was taken as the goal, since it was believed that only specially constructed shelters would save lives in damaged areas threatened by fire, and that their cost would be prohibitive. Only recently, as described in Chapters 2 and 3, has our knowledge reached the stage where planning to increase survival from direct effects as well as fallout radiation appeared to be practical.

The chapters in this manual can aid the emergency planner in understanding where the better shelter is likely to be, but identification of the best available shelter actually is a task for technically trained people. The National Shelter Survey, begun in 1961 as the National Fallout Shelter Survey, was accomplished by training thousands of architects and professional engineers in the radiation shielding technology of the day. By June 1972, the survey had identified over 200 million shelter spaces through the country having a protection factor of at least 40. Research on radiation shielding continued after the survey was begun. As more became known about the complexities of shielding, the survey methods were improved and made simpler. It became feasible to train architectural and engineering students to work on the survey during summer vacations.

Recently, direct-effects survey procedures have been added to the well-established fallout-shielding survey. The first "all-effects" shelter survey occurred in the urbanized part of the Colorado Springs metropolitan area. Some 360 buildings, other than homes, were found to have shelter possibilities. The blast-protection ratings used are quite similar to those shown in Chapter 2, Panel 19, although somewhat more technical in the description of the categories. The results for Colorado Springs are shown here. Space above the third floor (Preferences F and I) is not included. (The large amount of Preference F space is located in wall-bearing buildings offering similar protection to higher floors of strong-walled buildings.) Over 370,000 spaces were estimated to offer better protection than a home basement.

Fire vulnerability was also estimated, based on building construction, occupancy, and surroundings. About 57 percent of the buildings were judged at low risk; 43 percent at high risk. Natural disaster considerations are similar in many cases.

PANEL 4

RELATIVE BLAST PROTECTION
IN COLORADO SPRINGS
(Basements and First Three Floors of NFSS Structures)

Preference	Description	Spaces	Approximate Percentage of Total
A	Subway stations, tunnels, mines and caves with large volume relative to entrances.	1,305	less than 1
B	Basements and sub-basements of massive structures	None	0
C	Basements and sub-basements of steel and reinforced concrete framed buildings having flat-slab or slab-and-beam ground floor construction.	78,715	12
D	First three floors of buildings with "strong" walls.	293,747	46
E	Basements of commercial buildings similar to residences	3,815	1
F	Intermediate wall-bearing buildings.	111,567	17
G	Basements of steel and reinforced concrete framed buildings with flat plate ground floor.	19,970	3
H	First three floors of buildings with weak walls, brick buildings and residences.	129,462	20
I	Fourth and higher floors of buildings with weak walls.	None	0

PANEL 4

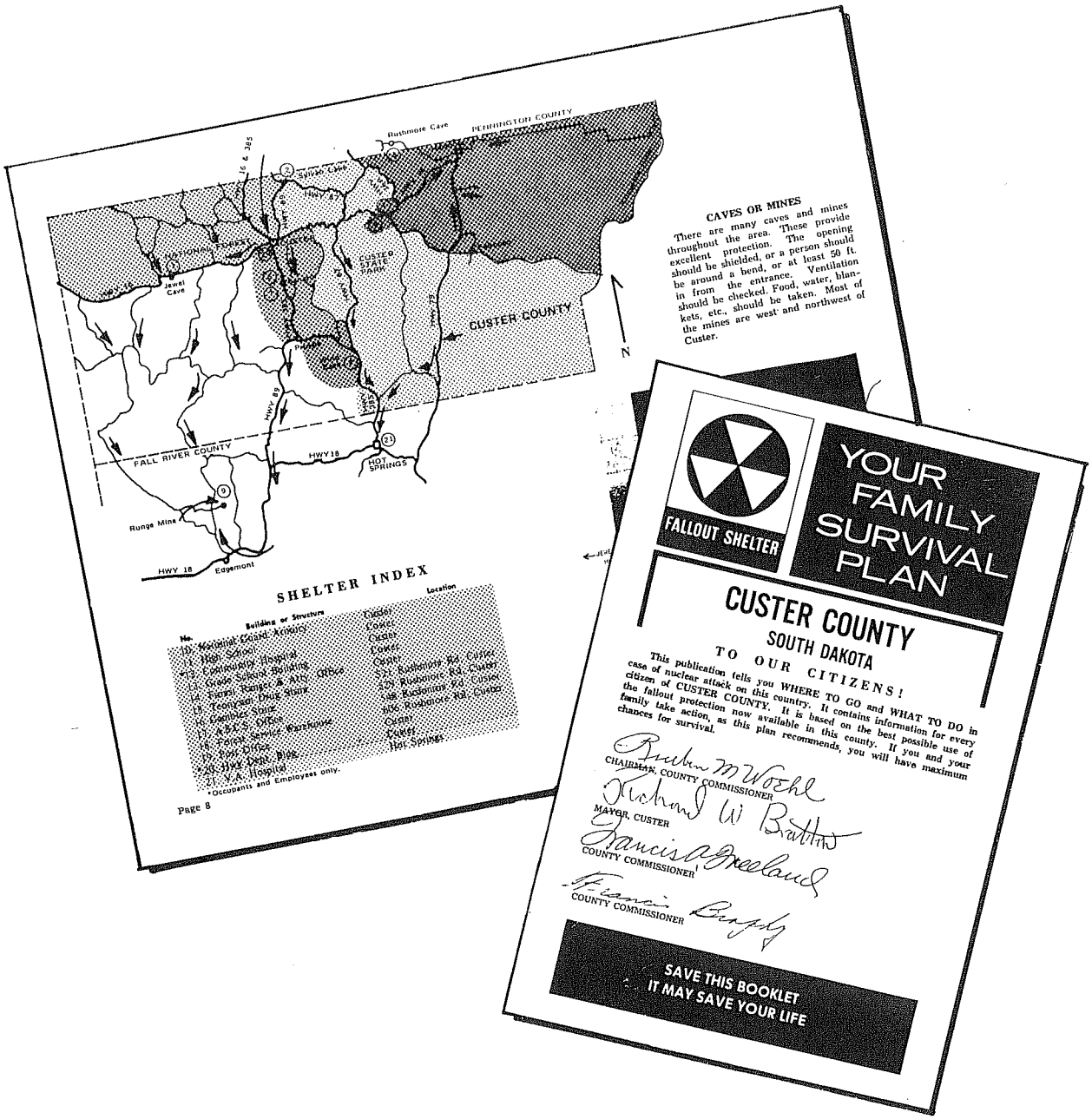
THE COMMUNITY SHELTER PLAN

Once the shelter protection existing in a community has been identified, whether in larger buildings or in home basements, a plan must be developed to make the best use possible of the protection. This is done by "community shelter planning," a process that matches the people in the community with the best-protected space available to them. Community Shelter Planning (CSP) became a major element of the National Civil Defense program in the mid-1960s as survey results became available.

Panel 3 suggests that about one-quarter to one-third of the population lives in areas that are relatively remote from likely targets. A review of Chapter 6 will show that from one hour to many hours would be available for moving to shelter in these areas, in addition to the warning time available before any detonations occur. People could travel considerable distances by automobile to utilize fully all available shelter. One such plan is shown here. The cover asks the citizenry to save the plan booklet, but research has shown that this is not often done in peacetime. Hence, current practice is to prepare the instructions for the citizens on "where to go and what to do" on newspaper mats, to be distributed in a crisis when needed. Federally-funded "CSP Officers" exist in most states to aid counties and municipalities in preparing these plans and keeping them up to date.

CSPs for metropolitan areas with a central city of 50,000 or greater population will stress protection against direct effects as well as fallout, as the results of the "all-effects" shelter survey become available. Because of the dimensions of the task of matching people to shelter in large urban areas, a computerized procedure has been developed to assist in developing a workable plan. Since people must be in shelter before detonations occur to receive protection against direct effects, movement to distant shelters is not feasible. The flight time of Soviet ICBMs is about 30 minutes and modern warning systems can detect an attack in its very early stages. Pedestrian movement of not more than a half-mile would be the rule. Moreover, it would be wise to assume that most people would be at home at the time of attack warning, since even the work force is home almost 70 percent of the time and could be encouraged to be there in an extreme crisis. These considerations will substantially reduce use of downtown public shelters as compared to fallout-only plans. As a consequence, much of the blast protection found in Colorado Springs (Panel 4) may not be accessible to the resident population. Use of home basements is a necessary part of the plan.

ONE OF MANY COMMUNITY SHELTER PLANS


PENNINGTON COUNTY
Rushmore Cave
Sylvan Cave
Jewel Cave
CUSTER STATE PARK
CUSTER COUNTY
FALL RIVER COUNTY
HWY 18
HOT SPRINGS
Range Mine
Edgemont
N
CAVES OR MINES
There are many caves and mines throughout the area. These provide excellent protection. The opening should be shielded, or a person should be around a bend, or at least 50 ft. in from the entrance. Ventilation should be checked. Food, water, blankets, etc., should be taken. Most of the mines are west and northwest of Custer.
SHELTER INDEX
Page 8
FALLOUT SHELTER
YOUR FAMILY SURVIVAL PLAN
CUSTER COUNTY
SOUTH DAKOTA
TO OUR CITIZENS!
This publication tells you WHERE TO GO and WHAT TO DO in case of nuclear attack on this country. It contains information for every citizen of CUSTER COUNTY. It is based on the best possible use of the fallout protection now available in this county. If you and your family take action, as this plan recommends, you will have maximum chances for survival.
CHAIRMAN, COUNTY COMMISSIONER
MAYOR, CUSTER
COUNTY COMMISSIONER
COUNTY COMMISSIONER
SAVE THIS BOOKLET
IT MAY SAVE YOUR LIFE

PANEL 5

SHELTERS AND STAGING AREAS

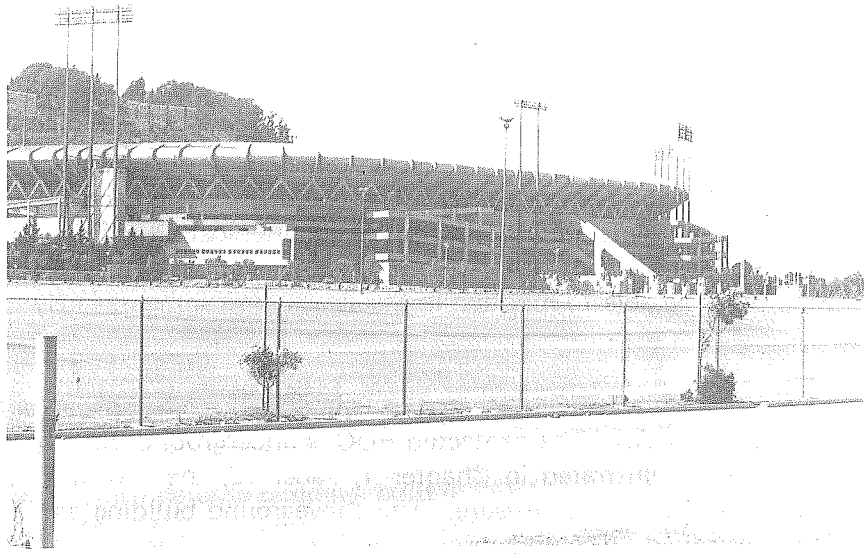
A review of Chapters 7 and 8 will indicate that allocating people to best available shelter and preparing to tell them where to go and what to do represents only part of the emergency planning problem. In particular, it is wise to consider at an early stage how the community will mobilize to emerge from shelter and to undertake critical post-shelter recovery activities.

The design of the Community Shelter Plan has an important bearing on the feasibility of emergency operations. For example, there are many localities in the northern tier of States (see Chapter 6, Panel 21) where nearly every home has a basement. There could be a strong temptation to avoid planning for public shelters by simply telling the citizens to seek shelter in their residences. It is very difficult, however, to imagine how shelter emergence and recovery could be carried out in a fallout environment with the whole population fragmented into family groups. Post-shelter operations must be initiated from larger shelters where organization, skills, radiation instruments, and communications are most likely to exist. It may be necessary to plan to tell isolated families by radio to remain where they are until organized teams seek them out. Alternatively, a neighborhood and block organization can be planned to provide leadership in those areas where residents are instructed to remain in home basements because of insufficient public shelter. In any event, plans should utilize public shelter capacities in or near residential areas as fully as possible.

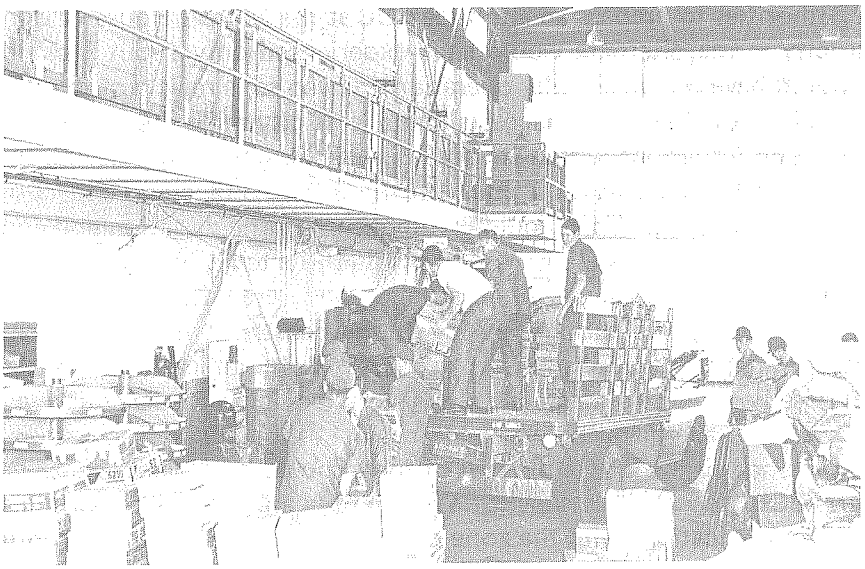
A closely associated requirement is the need for staging areas convenient to public shelters that can serve as bases for post-shelter operations (see Chapter 8, Panel 25). By preselecting locations having large paved parking areas for parking of vehicles and equipment and ease of decontamination and having good shelter for operators, one can provide bases for coordinated emergency operations, rally points for mutual aid coming into the locality, and a staging area for population support or evacuation. Major shopping centers, educational institutions, and recreational facilities are good candidates. One such planned location for a staging area is shown in the upper photograph.

Planned staging areas would also be useful in major natural disasters. Without them, disaster teams waste much time hunting for needed supplies and equipment while aid from the outside tries to find a useful delivery point. Staging areas often are created by necessity. A military airfield became an impromptu staging area (lower photograph) during the aftermath of Hurricane Camille. In Harrisburg, Pa., after Agnes, the courthouse parking lot "took on the aspects of a World War II supply dump." Well-publicized locations of planned staging areas for nuclear emergency operations could serve peacetime disaster purposes as well.

STAGING AREAS



Location Selected for Use As Staging Area in San Francisco Emergency Operations Plan.
Photo by Craig White



Emergency supplies at Keesler Air Force Base during Hurricane Camille.
Photograph courtesy of Keesler Air Force Base.

PANEL 6

EMERGENCY OPERATING CENTERS

Shelters and staging areas are essential elements of the "infrastructure" of local nuclear emergency operations; that is, essential elements of the physical facilities and equipment upon which the conduct and control of necessary emergency operations can be based. A third essential element is the control center. The community-wide control center is called an Emergency Operating Center (EOC): a central communication facility from which key local officials can coordinate and control the operations of all local emergency forces. Obviously, the EOC must be able to function in the attack environments likely to occur in the community.

Shown here is the Detroit EOC, located in Palmer Park. The aboveground building is used for day-to-day activities. The protected EOC is underground directly below. In the heavy attack on Detroit illustrated in Chapter 1, Panel 12, the Detroit EOC would have experienced over 15 psi blast overpressure. The aboveground building and antenna towers would have been destroyed. The underground EOC would have protected the key officials, although communications would have been limited until temporary antennas could be rigged.

Recognition of the importance of continued leadership, direction, and control has led the Detroit authorities to prepare an alternate EOC at the Detroit House of Correction to the west of the city. The alternate would have experienced only about 1 psi in the example attack and would have remained fully operational. Even so, a review of the Detroit situation as well as Panel 21 of Chapter 1, suggests that a large city might be faced with a wide range of Basic Operating Situations within its boundaries. A jurisdiction having an area less than about 25 square miles (5 miles on a side), on the other hand, could expect one, or at most two, BOS at any one time. This would greatly simplify the direction and control problem. Hence, a large city would be well-advised to partition its territory into zones, when feasible, based on existing divisions such as fire districts, police precints, or other integrated operational basis, and to provide subordinate operating centers in these zones capable of independent, decentralized operations in event of loss of communications with the EOC. To be functional, these zone control centers must have attack effects protection, a self-contained source of power, and adequate communications, just as the EOC. If large numbers of public shelters are included in the CSP, a portion of these should be designated as Shelter Complex Headquarters (SCH), each responsible for a group of nearby shelters. Staging areas and SCH should have communications with the zone control center or EOC, as appropriate.

The Detroit civil defense building, built in 1954, is used for administrative purposes. The EOC is directly below. Note radio communications tower.

Operations room in blast-protected Detroit EOC. This room is supported by police and fire dispatchers, 85 radio nets, over 200 telephone lines, and an 85 KW emergency power generator.

EMERGENCY ORGANIZATION

Fifteen emergency functions that might be required before, during, or after nuclear attack are defined in Chapter 1, Panel 16. Creating a separate organization to perform each of these functions would result in an unwieldy and impractical emergency organization. On the other hand, an emergency is defined as a situation in which the routine ways of coping with problems no longer work. It would be a mistake to assume that the normal municipal or county government agencies can undertake emergency operations without adaptation.

One solution to this dilemma is to build a streamlined and readily coordinated emergency organization on the hard core of operationally oriented local organizations and people. The ideal organization thus is bound to vary from community to community. We recommend consideration of the basic functional organization shown here. It consists of the major overall management group, called Direction and Control, and five operating services: Police, Fire, Medical, Shelter, and Resource. Choice of a more complex or diffuse emergency organization should be based on special local conditions of personnel or infrastructure; such a step must make full recognition of the fact that coordination requirements increase with increasing complexity.

Two of the five emergency services are based on, and largely staffed by, peacetime public-safety forces: Police and Fire.

The other basic emergency services—Medical, Shelter (often called "Welfare") and Resource—often have no day-to-day counterpart in local government and offer the greatest challenges to the attainment of local operational readiness. Disaster experience shows that, during the most stressful periods, all groups are likely to get involved in almost all tasks; sound planning minimizes the confusion that results from this very natural reaction. Key aspects of the organization of each of the six groups are contained in Panels 9 – 14.

THE FIVE BASIC OPERATING SERVICES

POLICE

MAINTAIN LAW AND ORDER THROUGH TRAFFIC AND CROWD CONTROL BOTH OUTSIDE AND IN SHELTER; PROVIDE SECURITY FOR VITAL FACILITIES AND SUPPLIES; CONTROL ACCESS TO OPERATING SCENES AND VACATED AREAS.

FIRE

PREVENT AND SUPPRESS OR CONTROL FIRE; LEAD SEARCH AND RESCUE OF ENTRAPPED PERSONS; ASSIST IN RELOCATION OF POPULATION THREATENED BY FIRE.

MEDICAL

PROVIDE EMERGENCY MEDICAL CARE BOTH OUTSIDE AND IN SHELTER; INSTITUTE SANITATION MEASURES; COORDINATE INTERMENT OF THE DEAD.

SHELTER

PROVIDE SHELTER LEADERSHIP AND ORGANIZATION; PROVIDE SUPPORT FOR PERSONS DISPLACED FROM OTHER ZONES; PROVIDE FOR THE IMMEDIATE NEEDS OF PEOPLE UPON SHELTER EMERGENCE, INCLUDING WELFARE SERVICES.

RESOURCE

CONTROL ESSENTIAL SUPPLIES AND EQUIPMENT; PROVIDE EMERGENCY SUPPLIES OF WATER, POWER, TRANSPORT, AND OTHER SERVICES; COORDINATE REPAIR AND RESTORATION OF VITAL FACILITIES; DEMOLISH HAZARDOUS STRUCTURES; REMOVE DEBRIS; AND DECONTAMINATE AREAS AS REQUIRED.

PANEL 8

THE POLICE SERVICE

The emergency mission of the Police Service is within the traditional scope of law enforcement activities: primary responsibility for movement control, for peacekeeping, and for maintaining security including suppressing crimes against people and property, as shown in this Table. The Task Assignments further define the areas of basic responsibility, and can be used as a checklist to develop specific plans and personnel assignments. The tasks shown are not inclusive. Some possible additional tasks are discussed in later panels. A capability to measure and control exposure to radiation is essential to the accomplishment of the mission.

The general character of police operations in a nuclear emergency can be understood best by considering the accomplishment of the police mission in light of the information in earlier chapters of this manual. In a period of severe international tension, preferably prior to receipt of warning that an attack has been detected, manpower and equipment must be deployed to positions where movement of the population to best available shelter can be expedited. Upon completion of movement to shelter, police forces must also be sheltered. Part of the police manpower must be distributed among the population shelters to assist shelter managers in maintaining order within these shelters. Another part of the police manpower, together with police vehicles, must relocate to the staging areas. As pointed out in Chapter 2, vehicles will generally survive direct weapon effects more readily in the open than when parked in lightly constructed buildings or adjacent to buildings. Officers assigned to these vehicles would take shelter at the staging areas.

If the situation forces abandonment of some or all of the shelters, the shelter-based police and staging-area-based police must coordinate and control the movement of the affected survivors, either to predesignated alternate shelters (see Chapter 3), or to the staging areas for transport out of the untenable area. In the post-shelter environment, the police service must control unauthorized movement and establish security for vital facilities and essential supplies. Manning guard posts and barriers to hazardous areas will be necessary.

Organizational components of the Police Service will vary among jurisdictions. Not all localities will have access to all of the organizations shown. Most of the functions to be performed do not require armed officers; a uniform or other badge of authority will suffice. Hence, plans should include incorporation of private security guards and watchmen into the Police Service, and should consider military support possibilities. The legal and jurisdictional aspects of such plans must be well worked out in advance.

POLICE SERVICE

MISSION STATEMENT	Maintain law and order through traffic and crowd control both outside and in shelter, provide security for vital facilities and supplies, and control access to operating scenes and vacated areas.	
BASIC RESPONSIBILITIES:	MOVEMENT CONTROL	PEACEKEEPING: MAINTAINING SECURITY
TASK ASSIGNMENTS:	1. Providing traffic and crowd control in accordance with CSP during the movement to shelter period. 2. Providing mission support to shelter managers, both in shelter and in event of remedial movement from untenable shelters. 3. Establishing security for vital facilities and supplies. 4. Controlling access to operating scenes and vacated areas, and preventing looting. 5. Protecting and controlling inmates of correctional institutions.	
POSSIBLE ORGANIZATIONAL COMPONENTS:	Police Department Sheriff's Department Constable's Department Department of Public Safety Auxiliary Police Private Security and Guard Services Military Units	

THE FIRE SERVICE

While the emergency mission of the Fire Service is quite similar to the peacetime functions of fire departments, the means to carry out the mission in a nuclear emergency are necessarily quite different from the traditional means, as pointed out in Chapter 3. Essentially, the peacetime fire department can control fires in disaster areas only if it has assumed a broad responsibility for leadership and planning and is able, either in peacetime or in crisis, to train most able-bodied citizens in fire prevention measures and in extinguishing incipient fires. As part of a widespread fire defense capability, there is a need for fire-guard teams in public shelters and brigades of trained fire auxiliaries to augment the professional cadre. Areas that rely largely on volunteer firefighters have a planning task somewhat different from areas with a fixed command and jurisdictional system.

Rescue is most often a peacetime function of fire departments. Some jurisdictions may have assigned rescue functions to the police or sheriff's department. In the nuclear emergency organization, the rescue task could as well be assigned to the Police Service, especially in connection with remedial movement.

Fire Service operations will emphasize a great deal of crisis-oriented organizing and training, as well as fire prevention measures. Prior to receipt of attack warning, manpower and equipment must be deployed to positions best suited to operations in an attack environment. Choices must be made as to whether to locate equipment and on-duty personnel at staging areas, at vital facilities, or at potential fire breaks. A combination will often be the best choice. Reliable sources of water for firefighting will be a key consideration.

Rescue units should be assigned to staging areas. Off-duty firemen would be most useful if assigned to major shelters to organize and lead fire guard teams. Rotation of personnel can be planned for postattack. Arrangements must be made to watch for accidental fires in vacated premises when the people have left to take shelter. Street patrols and observation from upper floors of the taller buildings are possible fire-watch procedures.

Should attack-caused fires occur, fire defense must be initiated wherever ignitions are found, without relying on normal concentrating of forces. Assistance from conventional fire equipment will require some debris removal from streets in most areas. Units arriving from undamaged areas are likely to be effective in limiting fire spread. If shelters must be abandoned because of fire threat, the Fire Service must make prompt determinations of risk and assist in removal of injured and able-bodied survivors. A capability to measure and control exposure to radiation is essential to the accomplishment of the Fire Service Mission.

FIRE SERVICE

MISSION STATEMENT:	Prevent and suppress or control fire, lead search for, and rescue of, entrapped persons, and assist in relocation of population threatened by fire.	
BASIC RESPONSIBILITIES:	**FIRE DEFENSE**	**RESCUE**
TASK ASSIGNMENTS:	1. Organizing and enforcing fire prevention measures to reduce the vulnerability of buildings and areas to fire. 2. Providing leadership and training of the public and self-help teams in suppressing smouldering ignitions. 3. Providing leadership and training of teams to locate and rescue entrapped persons. 4. Suppressing or controlling fire at staging areas and vital facilities, and maintaining firebreaks. 5. Assisting the Police Service in the relocation of those threatened by fire.	
POSSIBLE ORGANIZATIONAL COMPONENTS:	Fire Department Auxiliary Fire and Rescue Units Private Fire and Safety Personnel	

THE MEDICAL SERVICE

In contrast to the Police and Fire Services, most communities do not have a local government official whose peacetime functions cover all the medical and public health missions of the Medical Service. Medical care is usually provided by a network of private medical services, often highly organized to meet peacetime emergencies. Local Health Departments often are mainly concerned with public health matters, including inspection and licensing functions. Building on these capabilities is a major planning requirement. Individual hospitals must have an emergency plan, and must conduct exercises periodically for accreditation. Some large cities have mobile medical emergency units for handling peacetime problems. Some local civil defense directors have exerted leadership in developing emergency medical capabilities. Often medical communications are deficient or nonexistent. Many physicians, nurses, and allied medical personnel have emergency assignments to their own hospitals or agencies.

Most organizational problems can be resolved with the aid of local medical and allied professional societies. The assignment of medical personnel to public shelters and staging areas to provide in-shelter medical care and support is a major step. Medical manpower should not be concentrated in too few locations, such as only in hospitals. Designation of planned treatment centers to augment normal hospital beds is desirable. A capability to measure and control exposure to radiation is essential to the accomplishment of the medical mission.

Health and sanitation measures are normally undertaken by local governments quite independently of medical treatment facilities. In the shelter and immediate post-shelter environments, these measures must be much more closely coordinated with medical care. Thus, all tasks shown on this chart should be brought together under local leadership, uniting the medical and public health aspects to a degree not usually contemplated in peacetime. A possible exception is the operation of an ambulance service where this service is normally provided in peacetime by the police or fire department.

MEDICAL SERVICE

MISSION STATEMENT:	Provide emergency medical care both outside and in shelter, institute environmental sanitation measures, and coordinate interment of the dead.	
BASIC RESPONSIBILITIES:	MEDICAL CARE	HEALTH AND SANITATION
TASK ASSIGNMENTS:	1. Providing medical care and sanitation supervision in public shelters. 2. Establishing post-shelter treatment centers, including hospitals, and defining treatment standards in consonance with available manpower and supplies. 3. Inspecting and analyzing water supplies, sewage treatment, food stocks, and feeding facilities. 4. Reinstituting environmental sanitation measures, including control of disease agents. 5. Identifying the dead and coordinating interment. 6. Operating an ambulance service.	
POSSIBLE ORGANIZATIONAL COMPONENTS	Health Department Coroner; Medical Examiner Local Medical, Dental, and Veterinary Associations Hospitals and Clinics Ambulance Companies Local Morticians Mosquito Control Board Sanitation Department Private Exterminators	

THE SHELTER SERVICE

This Service combines the functions of what are often considered to be two separate jobs: (1) operating the shelters; and (2) providing food, clothing, housing, and other "welfare" services after shelter emergence. The closest analogy to the Shelter Service is offered by the functioning of agencies such as the Red Cross during and after a peacetime disaster. Shelter operations and post-shelter care are sequential operations that both involve providing for the immediate needs of people who lack the resources or the organization to care for themselves. Because they are sequential, they should be handled by a single basic organization—otherwise a large increase in trained manpower would be required. For example, it is inefficient to keep the "welfare" organization on standby until shelter emergence and to disband the shelter organization at that time because the emphasis of the task has shifted.

As with the other Services, considerable effort might be needed during a crisis period if peacetime recruitment and training prove inadequate. Plans should be made for shelter staffs to man their shelters prior to attack warning, ready to receive the population according to the CSP. Vital support will come from police, fire, and medical personnel assigned to the shelters. See Chapter 7 for a description of necessary in-shelter actions, including RADEF. Necessary resupply of water and other necessities should be provided from the staging areas. As the time for shelter emergence approaches, preparations for the support of the sheltered population outside the shelters must be made. Often this will be a gradual process, especially in fallout areas, with the shelters used part-time for many weeks. The external support arrangements must be based on neighborhood welfare centers, generally in such places as schools. As long as people do not have the means of providing for their own needs independently, the shelter organization must provide some leadership.

A special problem arises when many families in the community have taken shelter in the basements of their homes. It is good planning in this circumstance to develop an arm of the Shelter Service consisting of selected individuals in these areas who are trained to contact their neighbors, to provide leadership, and to act as a means of requesting help from the local authorities.

SHELTER SERVICE

MISSION STATEMENT:	Provide shelter leadership and organization, provide support for persons displaced from other zones, and provide for the immediate needs of people upon shelter emergence, including welfare services.	
BASIC RESPONSIBILITIES:	SHELTER MANAGEMENT	WELFARE
TASK ASSIGNMENTS:	1. Providing organized shelter leadership, including control of in-shelter supplies. 2. Directing shelter remedial actions where sheltered groups are threatened by the attack environment or other hazards. 3. Providing for the immediate needs of people on emergence from shelter, including feeding, lodging, clothing, registration, counseling, and reuniting of families.	
POSSIBLE ORGANIZATIONAL COMPONENTS:	Welfare Department Personnel and Employment Service American Red Cross School Board Disaster Relief Groups Retail Trade Associations Church and Religious Groups	

THE RESOURCE SERVICE

Many governments have found it desirable to establish organizations to handle the supply of resources that are required more or less in common by their other departments and agencies. At the Federal level, the General Services Administration and the Defense Supply Agency are examples. Equivalent organizations are being set up by many States and large cities. These organizations generally provide such services as: (1) purchase, storage, and distribution of common supplies, (2) construction, maintenance, and operation of buildings, (3) contracting for services, and (4) procurement, maintenance, and operation of transport. Such organizations are established to promote efficiency in the use of resources. Whether or not your locality has seen fit to establish a central peacetime resource agency, emergency operations and postattack management make a "single manager" for the mission shown here highly desirable. In many localities, it may not be feasible to group all the agencies listed under a single service, but in any case a centralized approach to management will be dictated by circumstances eventually. Thus, planning for common tasks becomes especially important, regardless of the formal label applied to the Service or groups.

Making the Resource Service a part of the emergency organization creates a single source of supply and support for the other Services, who are, in fact, claimants for the allocation of available resources, other than the specialized vehicles, equipment, and trained manpower that are organic to them. The Resource Service also provides a single point of contact with the "outside," able to make nonduplicative requests, expedite deliveries and anticipate shortages.

The focal point for Resource Service operations should be the staging areas. At maximum readiness, debris-clearance equipment, filled water- and fuel-tank trucks, emergency power units, and utility repair vehicles should be deployed at the staging areas. Support of the population and the public-safety forces must be initiated from these locations. As emergency operations are completed, the Resource Service must prepare to undertake debris removal and decontamination as needed, repair housing, and institute rationing and other controls on the use of surviving resources, as outlined in Chapter 8. A capability to measure and control exposure to radiation is essential to this mission.

The organizations listed on this chart are indicative of the resource-related groups that should be included in and responsive to coordination by the Resource Service on behalf of the chief executive of the jurisdiction.

RESOURCE SERVICE

MISSION STATEMENT:	Control essential supplies and equipment; provide emergency supplies of water, power, transport, and other services; coordinate repair and restoration of vital facilities; demolish hazardous structures; remove debris; decontaminate areas as required.	
BASIC RESPONSIBILITIES	CONTROL AND SUPPLY OF RESOURCES	REPAIR AND REHABILITATION
TASK ASSIGNMENTS:	1. Supplying and resupplying shelters, staging areas, and medical facilities. 2. Maintaining inventory control (including procurement) of food, water, medical supplies, petroleum products, transport, and other essential supplies and equipment. 3. Providing emergency supplies of water, power, transport, and other essential services to authorized users. 4. Removing debris and decontaminating. 5. Coordinating damage assessment, demolition, and repair of roads, housing, and vital facilities. 6. Providing manpower support for other Services.	
POSSIBLE ORGANIZATIONAL COMPONENTS:	Department of Public Works Streets, Parks, Water, and Sewerage Departments Department of Finance, Assessor, Licenses and Permits Taxicab and Trucking Companies Planning Authority Public and Private Utilities Construction Industry Associations USDA County Emergency Board Industry Committees USDL Employment Service	

PUTTING IT ALL TOGETHER

People involved in major disasters have knowledge only of the situation in their immediate vicinity. Each tends to regard himself as at the center of the worst havoc. Responsible officials who rush to the scene can get out-of-touch, and often obtain only a partial understanding of the situation and its needs. Experience has shown that, if the responsible local official and his chief advisors are located in an EOC with adequate communications to subordinate control centers, staging areas, and shelter complex headquarters as well as to news media, neighboring jurisdictions, and State authorities (called NEXTUP in this manual), the situation can be assessed, priorities established, and actions taken in a timely way. Nuclear attack will place great demands on the local capability to coordinate operations, preserve resources, and adapt plans to public needs.

Direction and Control (D&C) can make an important contribution to the saving of life and property **IF** it can assemble a broader and more useful picture of the operating situation than can subordinate units in the field, **IF** it is staffed by professionals who, by superior training or experience, are able to evaluate the situation more readily than field units, and **IF** it can communicate this knowledge concisely to those who need it. Two factors are of critical importance: the first is the existence of an adequate infrastructure (protected operating sites, effective warning devices, and survivable or redundant communications); the second is operationally oriented planning and training (the specification and practice of actions to be taken in response to events, either observed or reported). Until D&C can plan for management by exception, exercising control only through adjustments to actions planned and understood in advance, a locality is not operationally ready in the fullest sense. Flexibility of response is a mark of sound planning, while a too rigid approach does not take advantage of the usually excellent performance of the population and governmental system under disaster conditions.

DIRECTION AND CONTROL

MISSION STATEMENT:	Assign missions and tasks, direct planning, monitor the attack environment, inform the public, and control emergency operations.	
BASIC RESPONSIBILITIES:	**COMMAND**	**INFORMATION**
TASK ASSIGNMENTS:	1. Providing emergency information and guidance to the public, including attack warning. 2. Acquiring information on the attack environment, including RADEF, analyzing information, and informing Services of Basic Operating Situation. 3. Monitoring execution of planned actions and directing modified actions as necessary. 4. Keeping NEXTUP informed of situation, requirements for aid, and availabilities. 5. Setting priorities, resolving conflicting demands for resources, and authorizing major operations, such as population movement or shelter emergence.	
POSSIBLE ORGANIZATIONAL COMPONENTS:	Chief Executive of Jurisdiction (Command) Service Chiefs Commissioners or other Elected Officials Civil Defense Director and Staff, Especially RADEF Communications Resources News Media Legal Advisors	

WHAT'S IN A PLAN

In Panel 1, President Eisenhower was quoted as saying that plans are worthless, but planning is everything. Like most thought-provoking statements, this proposition is a purposeful exaggeration to emphasize an important idea. Planning—steeping oneself in the nature of the problem to be solved—is essential. But planning is likely to be fuzzy unless focused on the target of a workable written plan. And, as noted in Panel 1, plans **are** useful; they can be studied by newcomers, rehearsed by the emergency organization, and "tested" in exercises. Of course, the job is not over when the plan is written, for all plans must be reviewed and updated as the local scene changes.

DCPA and its predecessor agencies have always believed that plans are useful. Indeed, the preparation and approval of a written local plan has been a long-standing requirement to qualify for Federal assistance. There is no required format for the emergency operations plan but models have been suggested over the years. The outline suggested by OCD in 1968 is shown here. The "umbrella" part is known as the Basic Plan, giving a relatively brief statement of legal authority providing the basis for the plan; assumptions as to the contingencies that could face the community in event of attack, especially whether direct effects are likely to be experienced; the missions, concepts, and policies governing operations during all contingencies; and an outline of the further content of the plan. Emergency functions are assigned to specific government or non-government agencies and mutual aid or other support arrangements defined. The structure of the plan, whether locally designed or patterned on examples such as those used by the military, is of itself unimportant; it is the structuring of operations that is beneficial, and a format or checklist helps avoid important omissions.

For the most part, operational details are expected to be developed in a series of annexes and Standing Operating Procedures (SOPs) prepared by the agencies assigned to specific functions. An Annex covering direction and control and communications, with emphasis on details of EOC operations is absolutely essential. However, an evaluation of a random sample of 420 local government emergency operations plans made in 1969 and 1970 disclosed that these all-important annexes were often non-existent or consisted of little more than what the military calls a table of organization and equipment. An emergency operations plan that is devoid of operational content is, indeed, useless.

OUTLINE OF A BASIC PLAN*

Authority

I. Situation and Assumptions

II. Mission

III. Execution

- A. Concept of Operations
- B. Assignment of Emergency Functions
- C. Support

IV. Administration and Logistics

V. Direction and Control

*From **Example of a Local Government Civil Defense Emergency Plan for a Municipality of Approximately 20,000 Population,** Federal Civil Defense Guide, Part G, Chapter 1, App. 2, Ann. I, June 1968.

CONTINGENCY PLANNING—THE CHECKLIST APPROACH

A local emergency operations plan that is devoid of operational content cannot be of use in training or in guiding operations under attack conditions such as those represented by the example scenario shown here. Moreover, such plans indicate that the emergency planning that is so important has in all likelihood not been done.

Recognition that local emergency plans should provide for specific actions to be taken in response to a number of possible situations or contingencies led OCD in 1968 to recommend that emergency plans in order to provide full coverage be organized as follows:

Basic Plan (including annex on Direction and Control and Communications).
Part A—Increased Readiness Operations
Part B—Shelter Operations.
Part C—Emergency Control and Use of Resources Following a Nuclear Attack.
Part D—Natural Disaster Operations.

Emphasis was placed on Parts A and B, with Part A to be written after Part B was well in hand. Part B was to spell out the priority actions to be taken during the period when prompt response by local forces would be vital to ensure maximum survival of the population. The starting point would be the CSP. Operations were to be outlined for the nine Basic Operating Situations described in Chapter 1 of this manual. The concept of operations summarized in Chapter 1 was recommended. Naturally, many localities have their own formats and approaches to planning. The best approach for a given place must be defined during the planning process.

More recently, a checklist of priority actions keyed to **triggering events** of the type shown in this scenario has been developed to aid in providing operational content for Parts A and B. Called ALFA NEOP, as a short title for "inplace Nuclear Emergency Operations Plan," this checklist guide can be used in conjunction with the DCPA Attack Environment Manual to guide the planning that can result in realistic Service Annexes and SOPs. The essential features of this checklist approach are summarized in the next few panels, with frequent references to the scenario shown here.

Checklists of triggering events and recommended planned actions for Part C are currently under development. Checklists for corresponding operations in event of natural disaster have also been developed as outlined in Panel 25.

A NUCLEAR WAR SCENARIO

DATE/TIME	EVENT
5 AUG 1700	Threatening international development.
6 AUG 1000	Decision to commence alerting forces and expanding local capabilities.
15 AUG 1300	Decision to commence mobilizing emergency forces.
15 AUG 1600	Advised by NEXTUP to attain maximum readiness posture.
15 AUG 1745	ATTACK WARNING received.
15 AUG 1800	Distant weapon detonation observed to west.
15 AUG 1845	Movement to shelter is completed.
15 AUG 2015	Advised by NEXTUP fallout is likely in 1 hour.
15 AUG 2120	First report of fallout measurement.
15 AUG 2130	Monitor station reports 0.5 R/hr and increasing.
15 AUG 2315	All monitor stations have reported peak about 30 R/hr and decreasing.
16 AUG 0100	Building shakes, windows shatter, lights go out until generator takes over.
16 AUG 0109	Significant damage and developing fires reported.
16 AUG 0115	Fire Service reports eastern part of city safe from fire.
16 AUG 0120	Monitor station reports dose rate now increasing.
16 AUG 0130	Monitor station reports 50 R/hr and increasing.
16 AUG 0140	All monitor stations have reported peak about 200 R/hr and decreasing.
16 AUG 0230	Fire Service reports fires have been brought under control.
16 AUG 0305	All monitor stations have reported 50 R/hr and decreasing.
16 AUG 0430	Fire Service reports fires present negligible threat.
16 AUG 1900	Advised by NEXTUP that further attack is unlikely.
16 AUG 2400	Advised by NEXTUP that additional fallout is unlikely.
19 AUG 0900	All monitor stations report dose rates decreased to less than 0.5 R/hr.

INCREASED READINESS OPERATIONS

In the ALFA NEOP checklist, the increased readiness section is called "Plan A—Alert." There are eight triggering events defined for Plan A as shown here. Another possible event—nuclear detonation observed or reported—would call for immediate implementation of a subsequent plan section. Thus, Plan A contains all triggering events short of a nuclear detonation. The progression of events follows the Increased Readiness "ladder" presented in Federal Civil Defense Guide Chapter G-5, **Actions for Increasing Local Government Civil Defense Readiness.** Review of Chapter G-5 is included in the first planned action in response to the triggering event—Threatening International Development.

Local actions recommended in response to the first two events are unlikely to result in more than minimum public concern, even if they are reported in the news media. The action statements constitute a reminder list or agenda for the local chief executive, who should authorize those determined appropriate, exercising his own good judgement, if specific advice is not received from the State or Federal level.

The decisions represented by the third and fourth events entail actions that "go public" to a greater or lesser degree. Nonetheless, no real augmentation of capabilities nor readiness to use existing capabilities can be achieved unless these actions are undertaken. Moreover, it is likely that most localities will be in a position at the early stages of a crisis where expansion of capabilities and mobilization of emergency forces will be imperative. Of course, crisis events as reported in the news media may precipitate public concern and demands for affirmative action. Local governments must be prepared at an early stage to satisfy public inquiries and needs for action. Communicating decisions, or even the existence of a threat, to the public is by no means a certain or easy accomplishment.

The ultimate stages of crisis are represented by deployment of forces and movement to shelter. At any stage, however, the crisis may be resolved or eased. The last triggering event can occur at any stage. It is placed last to account for the possibility of false alerts, enemy shows of force, and other unlikely scenarios where shelter-taking may occur without subsequent attack.

As noted before, increased readiness actions should be planned after the subsequent emergency actions have been developed, as priorities will vary with the capabilities and readiness existing in each community.

ELEMENTS OF PLAN A

TRIGGERING EVENT	THEME OF PLANNED ACTIONS
Threatening International Development	Limited to accelerating ongoing CD programs and to internal actions by each Service to update assignments and increase readiness of cadre.
Decision to Commence Internal Government Readiness Actions	Brief key government and non-government officials and make ready to initiate actions to materially increase capabilities.
Decision to Commence Alerting Forces and Expanding Local Capabilities	Carry out actions to augment forces, improve shelter, and prepare to issue emergency information to the public.
Decision to Commence Mobilizing Emergency Forces	Initiate actions to reduce fire vulnerability, distribute CSP and self-help information, and continue to augment forces.
Advised by NEXTUP to Attain Maximum Readiness Posture	Deploy all forces to shelters, traffic control points, and staging areas; initiate hospital plans and industry shut-down.
ATTACK WARNING Received	Warn public and Services, expedite move to shelter, position for maximum protection, and take EMP precautions.
Movement to Shelter is Completed	Redeploy forces to shelters and staging areas.
Advised by NEXTUP to Decrease Level of Readiness (can occur at any stage).	Initiate actions to return to level recommended and to resume normal activities as appropriate.

THE DISTANT IMPACT PLAN

In the ALFA NEOP checklist, "Part B—Shelter Operations," referred to in Panel 16, is replaced by a series of plan sections corresponding to the nine Basic Operating Situations described in Chapter 1 of this manual. The first of these plan sections is called "Plan B—Distant Impact." The use of Plan B is triggered by a report or observation of a distant nuclear detonation. A "distant impact" is defined as one that causes no direct effects in the locality, not even broken windows. Hence, it would be observed mainly as a brilliant source of light, as described in Chapter 3.

Since a distant impact could occur shortly after ATTACK WARNING or without warning, taking of shelter must be expedited if not already completed. When movement to shelter is completed, traffic control forces are redeployed to shelters and staging areas and maximum protective positions maintained for at least six hours. At that time, unless advised to the contrary by NEXTUP, feeding and sleeping arrangements can be set up in shelters and essential supply and security missions can be undertaken. (NEXTUP is a planner's word for the next higher EOC. A chain of communications ultimately goes to the headquarters of the North American Air Defense Command—NORAD). When advised by NEXTUP that further attack is unlikely, actions can be taken leading to shelter emergence. Of course, during this period, the locality may be requested to dispatch emergency units to the distant impact area or to receive, shelter, and care for survivors from that area.

A nuclear detonation in the immediate vicinity could occur at any time. This event would call for leaving Plan B and activating Plan C (Panel 20). But the table in Panel 3 suggests that localities comprising at least 25 percent of the U.S. population would never leave Plan B. The only attack effects that these communities might encounter would be EMP and fallout. The severity of fallout would have an important impact on emergency operations. Fallout contingency plans are described in the next panel.

ELEMENTS OF PLAN B

TRIGGERING EVENT	THEME OF PLANNED ACTIONS
Distant Weapon Detonation Observed or Reported	Inform NEXTUP, expedite movement to shelter, estimate likelihood of fallout, and prepare to care for evacuees or dispatch aid, if requested.
Movement to Shelter is Completed	Redeploy forces to shelters and staging areas.
Six Hours Elapse Without Attack in NEXTUP Area	Relax maximum protective posture, establish shelter feeding and sleeping arrangements, and initiate resupply missions and security patrols.
Advised by NEXTUP that Danger of Attack is Over	Advise Services and public to remain in shelter until fallout is no longer a hazard and post-shelter controls are in effect. When appropriate, authorize shelter emergence.
Observation or Report of Nuclear Detonation in Vicinity (can occur at any time)	Immediately activate Plan C.

THE RADIATION CONTROL PLAN

Fallout radiation is the main threat to survival in localities where only distant impacts are observed. Radiation from fallout in sufficient amounts can also impede emergency operations outside shelters for a period of time. As noted in Chapter 1, it is sufficient to plan for three fallout contingencies: (1) NEGRAD, in which the measured dose rate never exceeds 0.5 R/hr; (2) LORAD, in which dose rates peak between 0.5 R/hr and 50 R/hr; and (3) HIRAD, the situation where dose rates exceed 50 R/hr.

NEGRAD is a situation in which fallout radiation is of negligible consequence. LORAD requires protection of the population and control of the exposure of emergency workers, and HIRAD suggests the suspending of all outside activity. Only the most serious emergencies in a Plan B situation are so urgent that they could not be postponed. But fallout also can be deposited in damaged areas. Fighting fires that threaten the sheltered population is essential in a HIRAD contingency because, unless fires are controlled, the people must leave the shelters and be exposed to the fallout environment.

The radiation control plans summarized in this table apply equally to the Distant Impact Plan and to direct-effects contingencies. In ALFA NEOP, duplication is avoided by a split-page format, with direct-effects plans on the left and radiation control plans on the right. Thus, any of the nine Basic Operating Situations can be displayed, showing all pertinent triggering events and the planned actions for each. The Service planner can observe not only those actions for which his Service is responsible but also all other planned actions that would be undertaken at the same time.

The NEGRAD plan takes effect upon the occurrence of a nuclear detonation. If a fallout measurement exceeding 0.5 R/hr is reported, the LORAD plan is operative. A report of dose rate in excess of 50 R/hr would call for the HIRAD plan. In the example scenario of Panel 16, the NEGRAD plan would apply beginning at 1800 (6 p.m.) on August 15, and the LORAD plan at 2130 (9:30 p.m.). The HIRAD plan would become effective at 1:30 a.m. the following morning. All plans continue throughout fallout decay and into the post-shelter period.

FALLOUT CONTINGENCIES

TRIGGERING EVENT	THEME OF PLANNED ACTIONS
NEGRAD	
Distant Weapon Detonation Observed or Reported	Plot direct effects areas, fallout reports, and estimate likelihood of fallout based on weather data.
Advised by NEXTUP Fallout is Likely	Advise Services and public, and schedule termination of outside activities.
First Report of Fallout Measurement	Start monitoring total dose to units and shelter groups.
All Monitor Stations Report Dose Rates Peak Less than 0.5 R/hr and Decreasing	Advise Services fallout hazard is negligible; prepare to receive evacuees.
Advised by NEXTUP that Additional Fallout is Unlikely	Continue emergency operations without concern for fallout. Plan for shelter emergence.
LORAD	
Monitor Station Reports Dose Rate in Excess of 0.5 R/hr and Increasing	Unless fighting fire, suspend outside operations and prepare for HIRAD situation; occupy shelter areas having lowest dose rates.
All Monitor Stations Report Dose Rates Less than 50 R/hr and Decreasing	Poll units for total dose received, evaluate hazard, and establish exposure criteria for essential operations.
All Monitor Stations Report Dose Rates have Decreased to Less than 0.5 R/hr	Suspend radiation dose controls.
Advised by NEXTUP that Additional Fallout is Unlikely	Maintain necessary dose controls and schedule shelter emergence.
HIRAD	
Monitor Station Reports Dose Rate in Excess of 50 R/hr and Increasing	Unless fighting fires, suspend outside operations; occupy shelter areas having lowest dose rates.
All Monitor Stations Report Dose Rates Peak Greater than 50 R/hr and Decreasing	Poll units for total dose received, evaluate hazard, and estimate shelter stay-time.
All Monitor Stations Report Dose Rates have Decreased to Less than 50 R/hr	Establish exposure criteria and undertake shelter resupply and other essential operations.
Advised by NEXTUP that Additional Fallout is Unlikely	Maintain necessary dose controls and plan shelter emergence.

THE NEARBY BURST PLAN

As noted in Panel 18, a nuclear detonation in the immediate vicinity would call for the actions in "Plan C—Clear." The immediate response would be to find out if the weapon had caused significant damage and, more importantly, if fires had been ignited. Operating units and shelter fire guard teams would conduct a quick survey, regardless of the fallout situation. Any ignitions found, of course, should be extinguished if possible. Reports of significant damage and developing fires would call for implementation of Plan D (Panel 21). Otherwise, the events and general actions shown on this panel would be appropriate. Referring again to Panel 3, and keeping in mind the damage and fire information of Chapters 2 and 3, it would appear that localities comprising about 25 percent of the U.S. population might be nearby nuclear detonations—beyond the area of significant debris and fire ignitions but within the range of minor damage and glass breakage.

Emergency forces and equipment would remain operational. Immediate aid to the neighboring area of more severe damage would be the central theme of actions. Aid to suppress fires would be of highest priority since fires could spread into the "clear" area. Consistent with the neighboring fire threat, mutual aid teams should also conduct search, rescue, and medical aid (in accord with the radiation control plan if fallout has occurred). Localities in a Plan C situation also should prepare to provide shelter and care for survivors from the damaged area.

If the locality remains in Plan C when advised that further attack is unlikely, actions must be taken to control local resources, support the population as necessary, and act as a base for recovery in adjacent damaged jurisdictions. The Staging Areas will be of great value for the latter purpose.

ELEMENTS OF PLAN C

TRIGGERING EVENT	THEME OF PLANNED ACTIONS
Observation or Report of Nuclear Detonation in Vicinity—Effects Uncertain	Deploy all Service units to survey and report situation.
Survey Indicates Damage and Fires Present Negligible Threat	Unless radiation controls do not permit, dispatch aid to damaged area and prepare to receive refugees and injured.
Six Hours Elapse Without Additional Attack	Relax protective posture, establish shelter feeding and sleeping arrangements, and initiate resupply and security missions in accord with radiation control plan.
Advised by NEXTUP that Further Attack is Unlikely	Advise Services and public to remain in shelter until fallout is no longer a hazard and post-shelter controls are in effect. When appropriate, authorize shelter emergence.

THE DAMAGE CONTROL PLAN

When a nuclear detonation occurs in the vicinity, Plan C calls for a rapid survey of the situation. Reports of significant damage or developing fires is the triggering event for "Plan D—Damage." The need for Plan D is likely to become obvious very quickly. For example, in the scenario of Panel 16, Plan B would be applicable beginning at 6 p.m. August 15. Plan C would be activated at 1 a.m. on the 16th, and Plan D adopted 9 minutes later as reports of damage and fires were made.

In an almost literal sense, every able-bodied person must be a fireman until fires threatening the sheltered population are under control. Controlling the fire situation is the priority action regardless of the fallout situation. (See Chapter 3 for the likely course of fire development and Chapter 6 for the timing of close-in fallout deposition.) Fires are under control when fire spread has been contained, the fire threat is diminishing, and the surviving shelters are judged to be tenable.

Fires are "controllable" until the Fire Service determines otherwise. If debris, damage, or insufficient manpower makes control of the developing fire situation highly unlikely, it may be advisable to implement Plan E promptly to give as much time as possible to evacuate the threatened shelters. This would be especially important in areas judged to have high conflagration potential (see Chapter 3, Panel 28).

In Plan D, Staging Areas should be used as rally points and work organization bases after the initial fire suppression effort. Incoming aid should be directed to the Staging Area for assignment of tasks. The Fire Service should plan to establish fire defense lines as appropriate and to direct evacuation of untenable shelters and other facilities as necessary. When fire is a negligible threat, search, rescue, and medical aid operations should be conducted consistent with the fallout threat. The surviving population should be maintained in the best remaining shelter unless relocation to the clear area is feasible. If the locality remains in Plan D when advised that further attack is unlikely, NEXTUP should be advised of needs and asked to coordinate aid in caring for survivors and in recovery of useful assets in the jurisdiction.

ELEMENTS OF PLAN D

TRIGGERING EVENT	THEME OF PLANNED ACTIONS
Significant Damage and/or Developing Fires Reported	Deploy all units and shelter teams to suppress incipient fires; conduct search, rescue, and medical aid; suspend radiation exposure controls.
Fire Service Advises Fires Have Been Brought Under Control	Reinstate necessary radiation exposure controls, maintain control of residual fires, and continue search, rescue, and medical aid.
Fire Service Advises Fires Present Negligible Threat	Continue search, rescue, and treatment of injured under appropriate radiation control plan.
Advised by NEXTUP that Further Attack is Unlikely	Seek aid in caring for or relocating survivors and in recovery operations.

THE REMEDIAL MOVEMENT PLAN

In densely built-up parts of cities under conditions of moderate to severe damage, control of developing fires may not be successful despite self-help training of the citizenry. In these circumstances, there is no alternative but to remove the population from the threatened area in a timely manner. If this remedial movement must be accomplished under a severe fallout hazard, the most difficult Basic Operating Situation, BOS 9, has been encountered. Situations of this kind appear hopeless but the information in this manual should convince the emergency planner that lives can be saved, even in this contingency, if a realistic "Plan E—Escape" is prepared.

A conflagration assessment of the jurisdiction (see Chapter 3) will prove invaluable in defining the areas that may have to be abandoned and the nearest relocation areas available. Availability of shelter in low fire-risk areas and fire breaks where fires could be contained will influence the detailed planning of the actions suggested in this panel.

ELEMENTS OF PLAN E

TRIGGERING EVENT	THEME OF PLANNED ACTIONS
Fire Service Advises that Fires are Uncontrollable in Areas Susceptible to Mass Fire	Evacuate all threatened shelters to lower-risk area regardless of fallout threat.
Fire Service Advises Mass Fire Contained	Reinstitute radiation controls; maintain fire lines; and initiate search, rescue, and treatment of injured.
Fire Service Advises Residual Fires Present Negligible Threat	Search burned area for surviving groups, support survivors in relocation area.
Advised by NEXTUP that Further Attack is Unlikely.	Request aid in care of survivors.

ANNEXES AND SOPS

The ALFA NEOP checklist is not a substitute for a local emergency operations plan. Rather, it is intended as a guide in developing or improving service annexes and standing operating procedures tailored to the locality's characteristics, resources, and authority structure. A good way to proceed is as follows:

(1) Conduct a number of desk-top or seminar exercises with the unaltered ALFA NEOP, using a set of suitable scenarios like that in Panel 16. Participants should include the chief executive, key operating officials, and the planning staff. The purpose of this step is to familiarize the responsible officials with the general character of the emergency actions involved and to identify those that may need modification to fit local conditions.

(2) The planning staff should review each action for pertinence to the locality, modify as appropriate, and particularize the action statements wherever possible. Actions peculiar to the locality, such as measures needed in low areas in event of damage to dams or levees, should be added. Action responsibilities should be adjusted to fit the local emergency organization and capabilities. Reporting arrangements should be adjusted to conform to State practice and NEXTUP identified, including alternates.

(3) Several desk-top or seminar exercises using the adapted checklist should be held to obtain the concurrence of the chief executive and key operating officials.

(4) The planning staff should then analyze each action statement to establish who or what unit will take what steps, using what equipment or resources, to accomplish the action. Reflect these in supporting annexes or SOPs. Identify those actions that cannot be undertaken with current resources for peacetime readiness development and for correction, if possible, during the Increased Readiness period.

An example of a possible format for the task assignment part of a Service Annex is shown here. In this particular case, three actions have been identified as Fire Service responsibilities in the event of ATTACK WARNING. The assignments reflect local conditions. Note that one action is a "conditional" action, the condition being "If not already accomplished." The same action appears for the event, "advised by NEXTUP to attain maximum readiness posture." (See Panel 17.) In this case, the routes to the Staging Areas have been identified in collaboration with the Police and Shelter Services to minimize interference with the movement to shelter.

AN EXAMPLE SET OF TASK ASSIGNMENTS*

EVENT: ATTACK WARNING RECEIVED

Fire Service Actions

A-47 AUTOMATIC

Sound public attack warning signal.

A-50 CONDITIONAL

If not already accomplished. . ., complete deployment of equipment and personnel to duty stations.

A-53 AUTOMATIC

Initiate fire watch; direct actions of shelter fire guard teams.

TASK ASSIGNMENTS

1(A) DISPATCHER

Notify all fire stations to sound attack warning signal on fixed sirens.

2(B) ALL STATIONS

When notified of attack warning, sound warning signal on fixed siren.

1(A) COMPANY A

Move fire truck to Central High School Athletic field via Southmore and Higgins. Park vehicle and take shelter in basement of high school. (SA-1)

2(A) COMPANY B

Move fire truck to Western Shopping Center via Otis Avenue. Park vehicle and take shelter in shopping center basement. (SA-2)

3(A) ALL PERSONNEL

On attack warning signal, report to assigned duty station.

1(A) COMPANY A

3 persons establish fire watch on 7th floor of National Bank Building. Phone: 323-7091

2(A) DISTRICT DEPUTIES

Establish contact with fire personnel assigned to shelters (see Tab A) and expedite fire prevention measures.

3(A) DISPATCHER

If not all shelters have fire personnel assigned, request Shelter Service to instruct such shelters to form fire guard teams and take fire prevention action.

EVENT: Attack Warning received. ACTIONS: A-47, A-50, A-53

EVENT: Movement to shelter is completed. ACTIONS: A-59, A-62, A-63

EVENT: Advised by NEXTUP to decrease level or readiness. ACTIONS: A-69

B-DISTANT IMPACT | C-CLEAR | D-DAMAGE | E-ESCAPE

* Adapted from Rainey, C.T., **Nuclear Emergency Operations Planning at the Operating Zone Level**, Stanford Research Institute, October 1970

THE PLANNING PROCESS

In the preceding panel, a way to use the ALFA NEOP in the planning process was described. Written plans, if they have operational content, serve as useful records of decisions made in the planning process and as training documents. The preceding illustration is indicative of what is meant by "operational content." The process of developing the operational content is the critical planning process.

Effective plans cannot be developed by the local civil defense official and his staff (if any) in isolation from other local agencies. Plans done in isolation are of little or no value because they are not likely to be used in the emergency. Moreover, operational content usually requires the knowledge of specific capabilities that is possessed only by the operating organizations involved. Many existing emergency plans assume emergency response capabilities that do not in fact exist. The process suggested here will make it difficult for imaginary capabilities to creep in to otherwise sensible preparations. Of course, deficiencies will exist. These must be identified and actions undertaken to correct them. To hedge against delays, corrective actions also should be included in Plan A to be undertaken in a period of international tension.

The local government's emergency plan should therefore document and reflect a planning process conducted by a local planning team. This team should include representatives from each department of local government with an emergency mission, and from non-governmental groups to which emergency functions should be assigned. Many such groups are suggested in Panels 9 through 13.

The chief executive should participate as much as appropriate in the work of the planning team, at least to the extent suggested in Panel 23. The local civil defense director should lead the planning process. As part of this leadership, he should take the responsibility for informing the team members from other agencies of the special conditions arising out of nuclear attack that should influence the operational content of the plan. This manual has been designed for this purpose. Additionally, training and on-site assistance is available through the University Extension Program and from members of the State civil preparedness agency and the DCPA Regional office.

A LOCAL PLANNING TEAM IN ACTION

Civil Defense Directors of York City and York County (Pennsylvania) discuss status of CSP materials with other members of planning team.

NATURAL DISASTER PLANNING

This manual describes the nuclear attack environment and the planning tools that can help build local readiness to cope with the contingencies of nuclear war. These same planning tools, such as ALFA NEOP, can, with little adaptation, build readiness as well for peacetime disaster operations. To demonstrate that this is so, we exhibit here another nuclear war scenario and, below it, the scenario of the Lubbock, Texas, tornado of 11 May 1970.

The nuclear war scenario was adapted from the tornado incident by assuming an airburst detonation in weather so inclement that fire ignitions were negligible. The event structures of the two scenarios are quite similar, differing mainly in terminology and the length of the period of threat. More importantly, the planned actions in ALFA NEOP closely approximate those that were required and actually undertaken by the emergency forces of Lubbock. Indeed, Lubbock officials assert that the infrastructure, planning, and training exercises built and undertaken in their city for nuclear preparedness purposes contributed in a major way to the effectiveness of their disaster operations.

One way to explain why nuclear and natural disaster operations are so similar is to note that, in Chapter 1, Panel 15, "Damage or Fire" can be generalized to all disaster agents that have a destructive impact—detonations, explosions, earthquakes, tornadoes, and the like. Similarly, "Fallout" can be generalized to all disaster agents having a paralyzing effect on operations—fallout, releases of hazardous materials, torrential rains, winter storms, and the like. The latter can make outside operations difficult, and, in some cases, impossible, just as does fallout radiation. Finally, both kinds of agents can occur in the same disaster (e.g., an explosion resulting in release of a hazardous material, such as chlorine). Having shown this, it is a short step to the nine Basic Operating Situations, the idea of plans for distant impact, nearby disaster, etc., and the use of checklist guides for planning.

An ALFA NADOP (for Natural Disaster Operations Plan), modeled on ALFA NEOP, has been developed for DCPA. It is being used to prepare checklists for operations in tornadoes, earthquakes, and similar disasters. These checklists will be published in the future.

ANOTHER NUCLEAR WAR SCENARIO

DATE/TIME	EVENT
1 MAY 1400	Threatening international development.
1 MAY 1600	Decision to commence internal government readiness actions.
4 MAY 0900	Decision to commence alerting forces and expanding local capabilities.
11 MAY 1000	Raining steadily. Weather report indicates large stationary low will produce rain for next two days.
11 MAY 2015	Advised by NEXTUP to attain maximum readiness posture.
11 MAY 2146	Building shakes, windows break; EOC lights go out for seven seconds until emergency power established.
11 May 2149	D&C reports communications out with NEXTUP.
11 MAY 2157	Police Service reports severe damage.
11 MAY 2230	Fire Service reports negligible fires—due to rain?
11 MAY 2330	D&C reports communications link with alternate NEXTUP.
12 MAY 0350	Six hours have elapsed without additional attack.
12 MAY 1700	Advised by NEXTUP that further attack is unlikely.
12 MAY 1800	Advised by NEXTUP that additional fallout is unlikely.

LUBBOCK TORNADO, 1970

4 MAY 0900	Decision to plan for additional medical facilities in case of a tornado disaster.
11 MAY 1000	Weather report indicates thunderstorms expected late afternoon and early evening.
11 MAY 1950	Severe Thunderstorm Warning Bulletin received from Weather Bureau.
11 MAY 2015	Tornado Warning Bulletin received from Weather Bureau.
11 MAY 2146	Building shakes, windows break; EOC lights go out for seven seconds until emergency power established.
11 MAY 2149	D&C reports communications out with Weather Bureau.
11 MAY 2157	Police Chief reports severe damage in downtown area.
11 MAY 2230	Assistant Fire Chief reports negligible fires.
11 MAY 2330	D&C reports communications link with Weather Bureau; Tornado Warning cancelled.

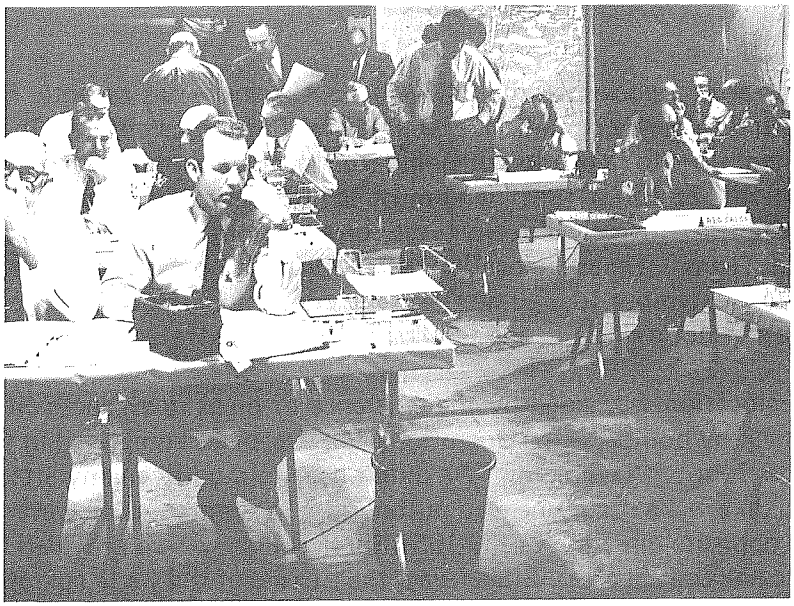
EXERCISES

Exercises are the mortar that binds the building blocks of infrastructure, people, and plans into the citadel of local emergency readiness shown in the very first panel of this manual (see Chapter 1). Plans and plan-writing in the absence of tests and exercises may be a fruitless activity. An emergency organization without exercise will soon decay.

Exercises may be designed for a variety of purposes. The simplest and most basic is a "command post" exercise intended merely to **demonstrate** to local officials and agencies the need for coordinated operations in major emergencies, including the need for interagency planning (see Panel 24). The Emergency Operations Simulation (EOS) exercise, available through the University Extension Program, has proved a popular and effective means of motivating local officials to **initiate** the all-important planning process.

As plans are developed that reflect local conditions and capabilities, the need arises for more ambitious exercise goals. Exercises can assist in developing organizational assignments, contingency plans, and communications procedures. Exercises can aid in planning displays and developing procedures for EOC, Staging Area, and Shelter Complex Headquarters functions. An exercise of this kind is shown in the upper photograph.

Exercises also are useful in the training of field units in unfamiliar tasks or in unfamiliar patterns of working together. One such field exercise is shown in the lower photograph. The ever-present peacetime threat of natural disasters or man-made accidents offers a valuable scenario for many exercise purposes. Field exercises, especially, can be made more authentic to the "players" in a peacetime disaster context. A nuclear scenario, on the other hand, tends better to exercise the making of coordinated responses, to require maximum use of all existing local capabilities, and to bring out more fully the need for and to provide experience in multi-level operations (NEXTUP, for example) and lateral coordination with neighboring jurisdictions. A locality that presumes to be operationally ready will be wise to schedule about two full-blown exercises each year, one with a nuclear attack scenario, and one keyed to an appropriate peacetime disaster. Of course, should a disaster actually strike, the misfortune will test local readiness in ways no exercise could duplicate. Thus, every effort should be made to document, evaluate, and learn from these incidents how better to prepare for future emergencies.



EOC Exercise in Jackson, Mississippi.

Operational Exercise in San Bernardino, California.

THE BRAVO CONTINGENCIES

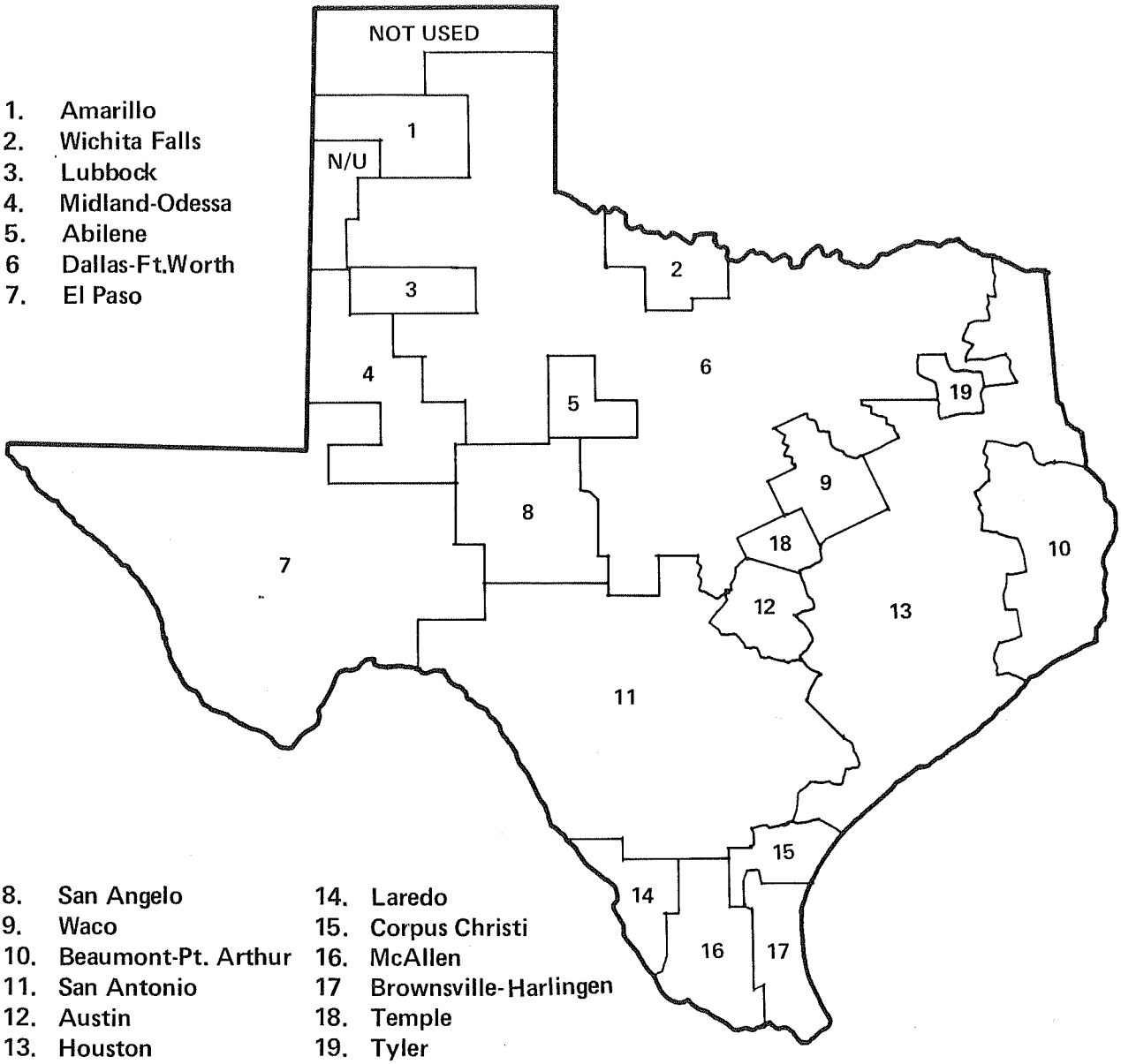
Planning for crisis relocation—the BRAVO contingency—has recently become an important element in emergency operations planning, for the reasons outlined in Panel 3. Many localities are no strangers to relocation planning for slowly developing natural disasters, such as hurricanes, floods, or forest fires. The most famous relocation occurred in advance of Hurricane Carla in 1961. Nearly three-quarters of a million Gulf Coast residents relocated in Louisiana and Texas. Texas' relocation, which was the major one, was begun around noon on Saturday, September 10, and was virtually complete by Sunday noon. In the entire movement, there was not a single traffic fatality or major accident.

The Carla relocation was aided by the existence of plans to evacuate cities after warning of enemy attack by bombers—the Operational Survival plans completed in the late 1950s. Said the Jefferson County CD director, "We didn't have to modify enemy attack plans at all, except that we didn't make roads one-way outbound." In some cases, however, actual movement was in the opposite direction of the 1957 Survival Plan, which provided for evacuation of inland cities to the coastal areas. Either way, the success of the Carla operation was a convincing demonstration that mass relocation is a practical, cheap, and effective means of saving lives. Of course, a BRAVO relocation involves a longer stay-time and different problems to plan for.

Shown here is a recent (1973) Texas plan. The map shows the relocation (hosting) areas for the 23 urbanized areas that the Texas authorities have scheduled for crisis relocation. (An urbanized area consists of a central city of 50,000 inhabitants or more, and the surrounding closely settled territory.) As noted in Panel 2, which localities are likely to be subjected to the direct effects of detonations is an uncertain matter. Currently, DCPA officials work together with State officials to reach agreement on the identification of "high-risk areas," those localities that should have a capability to relocate the majority of the population in a crisis as well as have a capability to protect their citizens in place, considering all attack effects. "Low-risk" areas would need to plan for reception and care of people relocated, including fallout shelter protection for both residents and the newcomers.

Once risk areas are defined, the surrounding hinterland must be partitioned into hosting areas, shown on this map. Since the resident population of a rural county is a good measure of the amount of hosting "infrastructure" already existing (e.g., wholesale and retail outlets, housing, water and sewerage capacity, etc.), a "hosting ratio" of people relocated to residents is often used to establish reasonable hosting areas. Those shown here do not exceed 2 persons relocated for each "host." Of course, in many parts of the country, movement will be across State lines, necessitating inter-state planning teams.

TEXAS EVACUATION AREAS*



1. Amarillo
2. Wichita Falls
3. Lubbock
4. Midland-Odessa
5. Abilene
6 Dallas-Ft.Worth
7. El Paso

8. San Angelo
9. Waco
10. Beaumont-Pt. Arthur
11. San Antonio
12. Austin
13. Houston
14. Laredo
15. Corpus Christi
16. McAllen
17 Brownsville-Harlingen
18. Temple
19. Tyler

*Based on Sachs, A., **Nuclear Emergency Operation Planning for Evacuation of Urbanized Areas**, Institute for Defense Analyses, August 1973.

URBANIZED AREAS AND THEIR HINTERLANDS

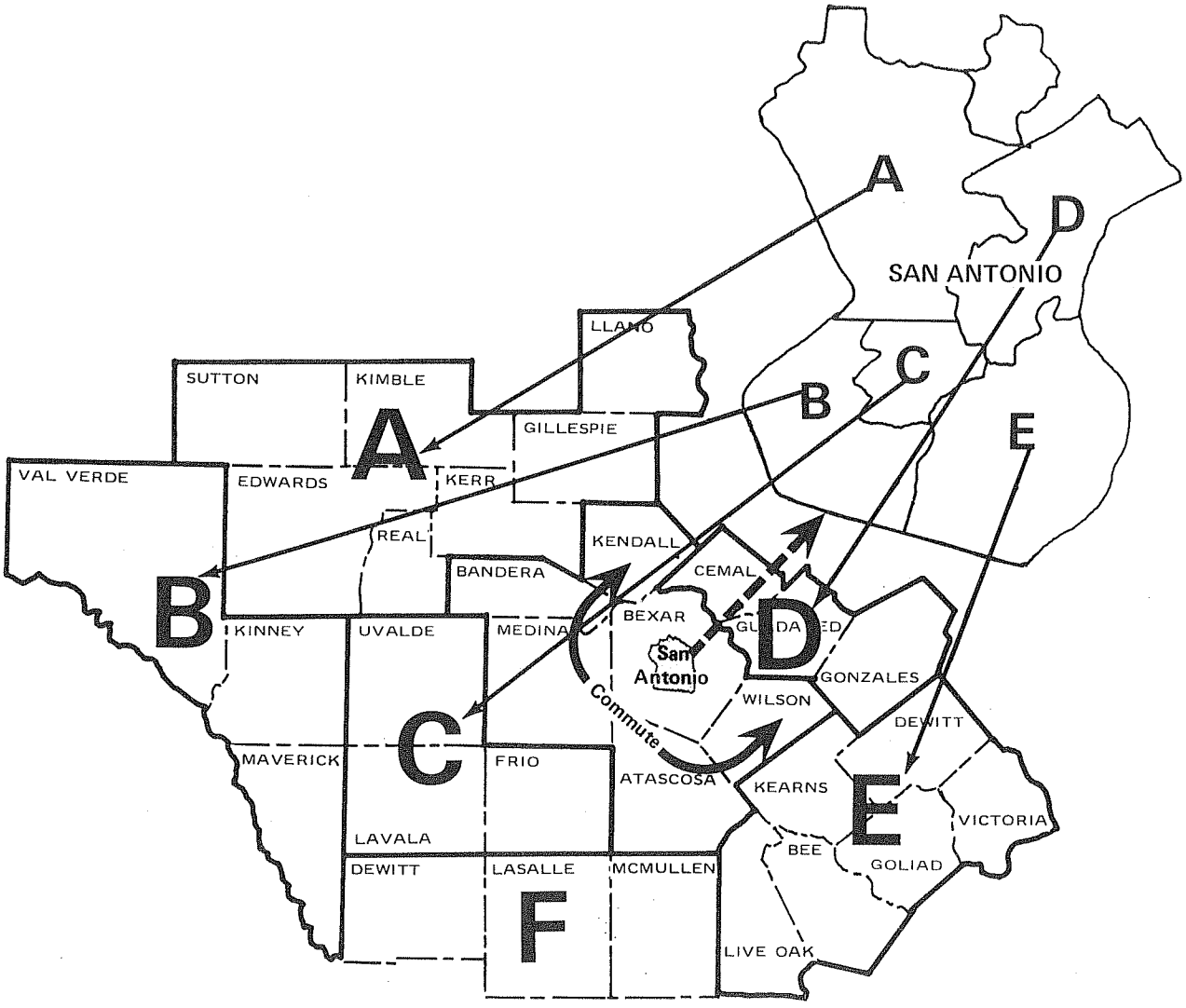
Once a general hosting area is defined for a city from which it is planned to relocate people, more detailed planning is needed to lay the basis for public information materials that could be published in a crisis to tell the citizens where they are to go, what preparations to make, and what to expect when they arrive at their relocation destination. War and disaster experience also indicate that many people make independent decisions to move on their own.

Crisis relocation differs from the "tactical" evacuation of the 1950s in that several days would be available to accomplish the movement, rather than the relatively few hours that were allowed in the earlier planning. Nonetheless, considerable attention must be given to the number and capacities of highways leading from the urbanized area to the host counties. Providing detailed assignments, such as telling residents of a given city block to go to a specific outlying town, would be very difficult and probably unnecessary. But residents of various areas of the city ought to know which routes to take and the host counties served by these routes. It appears more practical to plan for the Police Service in the host counties to direct incoming traffic to final destinations in an orderly manner.

The map shown here illustrates the way the San Antonio, Texas, planners assigned the population in various parts of the city to groups of host counties served by the existing highway net. San Antonio has been the site of one of the first prototype projects for crisis relocation (BRAVO NEOP) planning. One product of this planning has been the development of a set of planning checklists that perform the same function as the ALFA NEOP checklist described in Panel 16.

There appear to be several possible ways to subdivide a city and its suburbs so that citizens can learn where they are to go. One is simply a map, as shown here, with areas sized to reflect the capacities of highway routes and host counties. Since many people have difficulty locating themselves on a map, neighborhood names or zip codes or the first three digits of telephone numbers might be used. A basic objective, of course, is to communicate advice to the public that is easy to follow and that will result, if followed, in an orderly flow from the city to a host jurisdiction of the approximate number of people being planned for accommodation. Many employees and their families may be asked to relocate to specific places if their company or agency must keep in operation or be ready to resume operations quickly. In the San Antonio plan, close-in counties are reserved for organizations whose employees must commute to work in the city.

SAN ANTONIO HOST AREA ASSIGNMENT*



*Prepared by San Antonio Planning Department.

MOVEMENT PLANNING

The assignment plan discussed in the previous panel is the BRAVO equivalent of the in-place CSP described in Panel 5. Once available, it forms the basis for planning of the emergency operations needed to accomplish the movement. Generally, it can be assumed that movement will be by private automobile, supplemented by public transportation for those families without personal vehicles. Support in the host counties will be greatly eased if families are instructed to load the family automobile with at least three days' supply of food, any special medicines, clothing, bedding, and camping gear. Staging areas may be used for loading of buses with people needing transport.

Spontaneous evacuation can be expected during a crisis prior to an officially recommended or directed movement. Since many urban residents may have relatives or vacation homes in the host area, they will be the most likely persons to move spontaneously. It has been estimated that from 10 to 40 percent of the urban population may have a destination in mind for evacuation. Since most families that have a place to go would attempt to go there even in a directed movement, the assignment plan and movement control strategy should accommodate this choice to the maximum extent possible.

The relocation of the population to the hinterland should be anticipated by prior deployment of the emergency services to preassigned locations where they can be most effective. In addition to the manning of traffic control points by the Police Service, most of the Medical Service, Shelter Service, and a substantial part of the Fire Service should be redeployed to the host counties. Shelter RADEF equipment should be moved to the hosting area. Planning for operation of key utilities and services after the people are relocated is discussed in Panel 31.

SUGGESTED MOVEMENT GUIDANCE

Most residents move in family groups by private automobile, with supplies.

Those without transportation board buses at staging areas unless institutionalized; make special arrangements for hospitals and other institutions.

Advise those with relatives or vacation homes or other such facilities to proceed to their own accommodations rather than following the general assignment plan.

Redeploy emergency forces and their equipment to host counties, to staging areas, and to traffic control points as soon as the decision to relocate is made.

Plan to complete organized movement within 48 hours after start, or as soon as possible so that risk area access control and other security measures can be set up properly.

HOSTING ARRANGEMENTS

The BRAVO planning problem for a host county is basically how to provide for a population several times larger than normal for as long as several weeks. The critical problems will usually be housing, feeding, sanitation, and providing fallout shelter for the expanded population. A host county that has realistic plans to deal with these four problems can be considered ready for the BRAVO contingency.

In planning, full initial cooperation on the part of the evacuees should be assumed. Maximum use should be made of schools, churches, and similar facilities for lodging the relocated people. Red Cross experience and the material in Chapter 7 will be useful for planning congregate housing arrangements. In many instances, the number of larger buildings will be insufficient to house the added population. In this event, plans should include using schools and other suitable buildings as registration centers and staging areas, from which most visitors would be taken by local residents, who would have been requested to take a guest family, as occurs in short-term natural disaster evacuations. It is likely that some shifting of people might be required after initial allocation because of local conditions.

Increased deliveries of food to host counties is a problem that must be solved at the State level in conjunction with the major food wholesalers. Normally, foods are shipped into the central city and then distributed by food processors, chain stores, and other distributors, not only within the city but to outlying areas as well. Plans can be made to expand the deliveries to the host counties in lieu of the city. Host county planners need to work out arrangements for intensive use of available retail outlets and mass feeding as necessary.

Sanitation problems such as sewage disposal and provision of water may arise when population has increased. Planners must be able to augment water supplies or ration the available supplies; and must also make arrangements for temporary sanitary waste disposal and solid waste disposal systems for the duration of the relocation period.

The fourth major hosting problem is the provision of fallout shelter. Rural counties are often deficient in shelter for the indigenous population except where residential basements are common. Evacuee labor would be plentiful if plans and tools are available for shelter construction. Construction equipment from the urban area can also be moved in. As shelter is developed during a crisis, RADEF equipment and shelter supplies can be brought in from the cities from which people have been relocated.

BASIC HOSTING PROBLEMS

Housing for Evacuees.

Food Distribution, Feeding, and Sanitation Arrangements.

Water - Sanitation.

Expedient Fallout Shelter.

RESIDUAL OPERATIONS IN THE CITY

It is generally neither feasible nor advisable to completely abandon an urban area. A vacant city would likely experience considerable damage from accidental or natural fires, for one thing. Therefore, a skeleton public safety force is necessary at a minimum. Water service and electric power would also be necessary even though usage would be greatly curtailed.

Certain activities are also needed in the city to support the population in the hinterland. As noted in the previous panel, food distribution centers in the urban area probably must be kept operating. There may be other support activities of a medical or other essential nature as well.

Certain key industrial plants also may be slated for continued operation. As suggested in Chapter 8, Panel 20, it is probably desirable to accelerate production of essential survival items and to move these items out of the city. Some industrial processes, such as oil refining and basic metals, are not readily shut down. Other industrial plants may be critical to the national or regional economy.

Essential workers should be identified in the planning process and they and their families should be assigned nearby relocation areas from which it is feasible to commute to and from the critical work places. Note in Panel 28 that the nearby host counties have been reserved for San Antonio's critical work force.

Essential workers would spend their off-duty hours with their families, presumably near but outside the cities. (Experience shows that it is very difficult to separate key workers from their families, so plans must be flexible enough to respond to this type of problem.) Commuting would need to be on an organized basis—by bus or train, in most cases. The very best all-effects protection at the plant or in nearby structures should be identified for use by the working shift, should ATTACK WARNING be received. If suitable protection is not available, the building of expedient shelters at the work location should be planned.

CATEGORIES OF ESSENTIAL WORKERS

Key Government Officials

Police and Fire Units

Utility Operators

Food Distributor Employees

Other Essential Support Personnel

Manufacturers of Essential Survival Items

Workers in Facilities that Cannot Be Properly Shut Down

Workers in Defense and Other Industries of National or Regional Importance

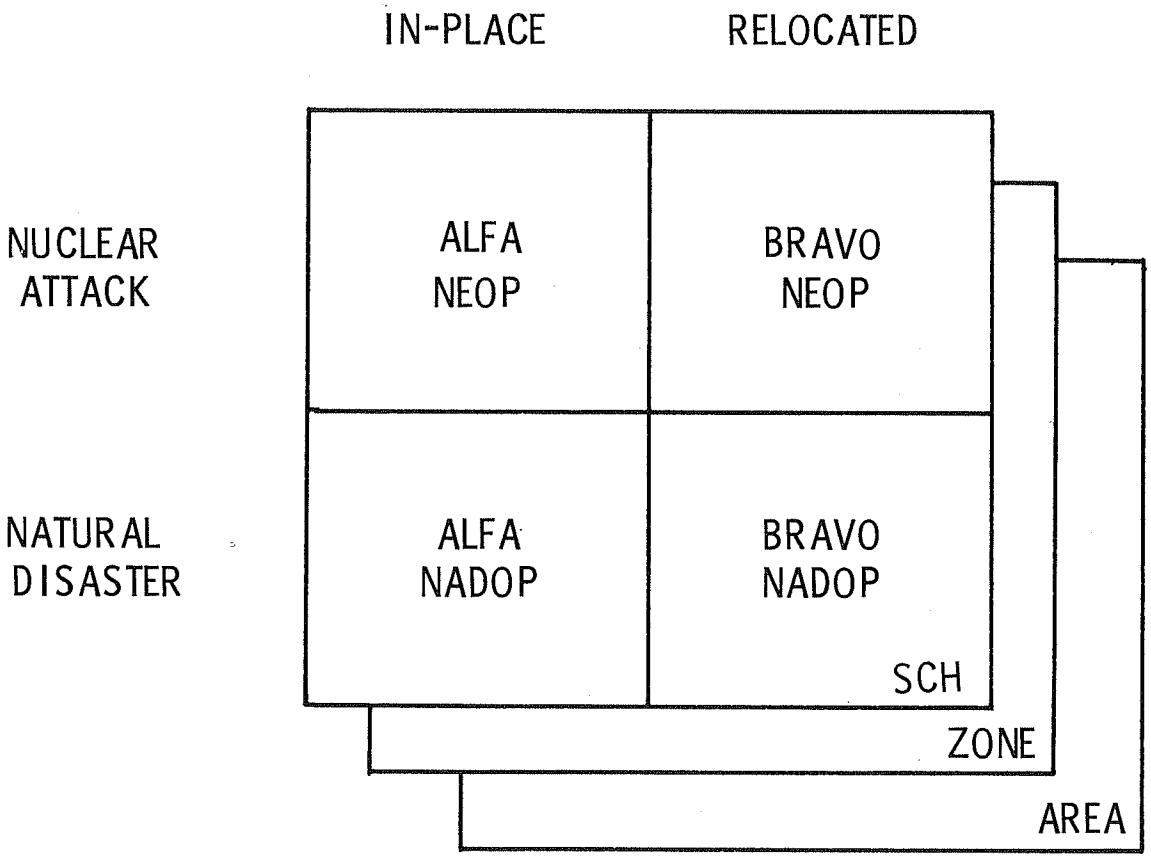
FULL-SPECTRUM CIVIL PREPAREDNESS

Beginning in 1972, the programs of the Defense Civil Preparedness Agency were broadened to cover operational readiness for all likely hazards. The threat to be considered includes peacetime hazards as well as all attack effects in event of nuclear war. Moreover, plans are to include both short-warning contingencies and crisis buildup. The basic lifesaving strategies for peacetime or attack hazards are (a) protection of the people in-place, or (b) leave the threatened area if circumstances permit.

This manual has been written to aid in preparing realistic nuclear emergency operating plans. Checklists, both ALFA NEOP and BRAVO NEOP, are available for local use. The BRAVO NEOP also includes a State-level checklist since key elements of evacuation planning must be accomplished at this level. An area-level version of ALFA NEOP is in preparation, emphasizing mutual aid and State support of local government. Lower echelons, such as Shelter Complex Headquarters and Multi-Purpose Staging Areas are covered in separate documents soon to be available.

The natural disaster planning checklists also have been developed and are undergoing field testing. They closely parallel the nuclear attack planning guides so that familiarity with one makes for familiarity with the other. Orderly development of plans and training based on these guides will lead to "full-spectrum" operational readiness for all emergencies that might arise. It is particularly important that planners think through their total problem, not merely the first hours or days of disaster but on through the days or weeks of coping with continuing problems, with or without outside help.

A COMPLETE SET OF PLANNING GUIDES



SUGGESTED ADDITIONAL READING

At the end of each chapter, we have listed additional reading for the planner who wishes to steep himself "in the character of the problem you may one day be called upon to solve." Many other information sources are cited in the various panels of the chapters. Some of these sources are readily available official publications. Most, however, are reports of research on a wide variety of topics. These are available for purchase from the National Technical Information Service if the citation includes the six-digit "AD number" or "CONF number" by which it can be identified. Hard copies of recent publications generally cost $3.00. Microfiche copies cost 95 cents and are to be preferred if a microfiche reader is available. Write the U.S. Department of Commerce, National Technical Information Service, Springfield, Virginia 22151, for information on how to order any of the reports cited.

"Grin and Bear It" by George Lichty
Courtesy of Publishers-Hall Syndicate

"According to all my reports, men, the mock Atomic bomb test was a success . . . now we know how to cope with mock Atomic bombs . . ."

PANEL 33